The Builder.

Vol. XIV.—No. 710.

ITTLE SWAN-ALLEY, where fell the house that proved a grave for four poor creatures last week, is a few paces out of the fine thoroughfare Moorgate-street, and a very short distance from the region of gold, Lothbury. The alley is about *seven feet* wide, with houses on both sides, all in a miserable condition, dangerous alike in a structural and a sanitary point of view. The house that fell was at the back of the houses on the north side of the alley. It was a mere heap of rubbish. The tenants were advised at different times to leave it, but, as one of them said at the inquest, in words we have often recorded before, she would gladly have done so if she could; but she had a large family, and it was very difficult to get reasonable lodgings in the neighbourhood, and so she would take the chance. Mr. Woodthorpe, the district surveyor, said, in the course of his examination at the inquest,—

"The house that has fallen was upwards of 200 years old. The woodwork was perfectly rotten in every part. I have examined the house since the occurrence, and from my judgment, having seen a great deal of dilapidated property, I think that the house fell bodily from a decay of the joists and ends of the rafters. That remark would apply to the whole of the woodwork, without exception, as it was all worm-eaten. My own opinion is, that the cause of the fall was the weight of the people in the house at the time, which had then got up to a breaking-point. The floor was unable to bear the weight. The appearance of the house externally would not indicate its rotten appearance within. I have no knowledge of any formal complaint being given at my office in respect to this property. This property had been presented by the ward inquest as unsafe ten or twelve years ago. That was before my appointment; but although the presentment was made to the Court of Aldermen by the inquest, I can trace it no further. It does not appear to have been communicated to the surveyor. I have heard that the premises were afterwards repaired. He had examined three other houses, and found the same cause of decay, and he believed they would be condemned that very day. There was no foundation whatever for the chimney-shaft:—the chimney-shafts were completely suspended. Excavations frequently were made for the purpose of deepening cellars, and the footings of the walls were often destroyed. These alterations took place surreptitiously, and without notice being given to the district surveyor. Three weeks ago, when I looked at these houses, I saw nothing special to call for interference in respect to them. I do not consider it my duty to go over the district like a policeman every day. I have condemned twenty houses within the last six months in the neighbourhood of Golden-lane on my own authority. I was set in motion on notice being given to me, and on making farther inquiries I ordered the houses to be pulled down."

The coroner, after summing up the evidence that had been given, pointed out that it was the duty of the jury to inquire if there had been that culpable neglect on the part of any persons which would make them criminally responsible; whether there had been omission amounting to culpable neglect on the part of those who had charge of surveying the district, or of any other person. If they were of that opinion, they must say who were to blame, and it would be their duty to return a verdict of manslaughter against him or them; or, if they did not feel justified in coming to that conclusion, then they must say it was an accidental occurrence.

The jury, after deliberating for some time, returned the following verdict:—"Accidental death from suffocation by the falling of the house, No. 9, Little Swan-alley," accompanied by the following recommendation:—"The jury earnestly recommend to the Commissioners of Sewers that they would authorize a special survey forthwith to be made of all the buildings, in the city of London, that from age or other cause may be supposed to be out of substantial repair."

It is to be hoped that this recommendation will be attended to immediately, as there are houses around the site of the recent accident, without going farther, in an imminently dangerous state. There are houses in Blue-Hart-court and Bell-alley (we would especially instance No. 4, in the latter place, that looks as if it might come down at any moment), which should have immediate attention. In New-court, although more decent in aspect externally, the fronts overhang very considerably. In a sanitary point of view, air and light are sadly needed in this nest of alleys. We can remember when it was much worse, it is true,—when the tenants had no water, and every house was a reeking fever-still. It is bad enough, however, even now. In one of the houses that we entered, the smell was perfectly overpowering, and in many, the cadaverous aspect of the occupants shows the degradation of the vital powers. Let us hope that out of evil may come good.

Considerable misapprehension was evinced at the inquest, as to the duties of district surveyors in respect of ruinous buildings, and has since been shown out of doors, leading to very injurious reflections on the conduct of a body of public officers, wholly unfounded. The Metropolitan Building Act sets forth, in section 69, that whenever it is made known to the Commissioners of Sewers of the City of London, if situated in the City, or to the Commissioners of Police, if situated elsewhere, that any structure or projection is in a dangerous state, the commissioners "shall require a survey of such structure, to be made by the district surveyor, or by *some other competent surveyor;* and it shall also be the duty of the district surveyor to make known to the said commissioners any information *he may receive* with respect to any structure being in such state as aforesaid." Upon receipt of the surveyor's certificate, the commissioners are to act. The City Commissioners of Sewers have, wisely and honourably, as it seems to us, continued to employ the district surveyors in such matters; but the Police Commissioners have thought it right to take them wholly out of the hands of the district surveyors, and employ a surveyor of their own, so that the body of district surveyors have in truth nothing whatever to do with ruinous buildings beyond forwarding to the commissioners any information they may receive in respect of such, and this they do constantly without fee or advantage. They are, not simply, not called upon to move farther in such matters, but they have no power to do so, and would lay themselves open to animadversions if they attempted it. It is surprising, therefore, and to be regretted that a respectable journalist should reproach the district surveyors, for treating with *sang froid* what he terms their most important duties, in the discharge of which, he continues, they ought to be wakeful and active, when no such duties devolve upon them.

Again, a correspondent of the *Morning Advertiser*, who signs himself "A Practical Builder," but who scarcely can be so, says,—"It is not to be expected that the surveyor will visit and inspect the interior of every house that may appear to him to be in a dilapidated condition, unless the outward appearances shall warrant him, in his cursory view, that something is radically dangerous."

It certainly is not to be expected that he should do so: in the first place, he would have no right to do it, as we have already shown, and would simply render himself liable to a reproof for his pains. The writer goes on to say,—"And even then" (that is, if led to visit the interior of the house), "his education and avocation *does* not lead him to investigate and examine into the minute details which are requisite; and the remedy I beg to suggest is very simple, and attended with little expense, viz." (What do our readers think?), "that every surveyor shall have attached to him a practical builder of experience, who can take notice of all these defects, report to the surveyor, who can then make his report to the proper office, and thus prevent a recurrence of this dreadful catastrophe."

If the writer were really a practical builder, he would know that if any one of the surveyors be unable of himself to detect, on survey, if a building be dangerous or not, he is unfit for his office. Again, however, let us seek to make it understood, that the district surveyors, with the exception of the four in the City, are not permitted to have anything whatever to do with ruinous buildings: the Commissioners of Police have taken them altogether out of their hands.

The same correspondent, in a subsequent letter, in which he gives a list of buildings in a dangerous state, completes the evidence of either his ignorance of the matter as regards the surveyor, or wilful departure from the truth, to injure a public officer, by asking why the Corporation permit such flagrant abuses to exist, "and quietly allow the surveyor to receive his salary without efficiently performing the duties of his office?" The surveyors receive no salary, but they would be paid a small fee for each survey if they were directed to make it.

The City Commissioners of Sewers, at a meeting held on the 9th, came to the resolution, on the motion of Mr. T. Abraham, "That it be referred to the General Purposes Committee to inquire into the cause of the falling of the house in Little Swan-alley, and into the working of the present system of house inspection, with especial reference to dangerous structures, and also whether it is necessary to make any and what alteration of system, and to report thereon to this commission."

One of the speakers, Deputy Lott, in supporting the motion, said he most heartily wished that more uniformity of action would be adopted for the future than had recently prevailed among the district surveyors of the City, and he trusted that the committee would take into consideration the provisions of the last Building Act, which were of a very peremptory description. As an instance of the want of unity among the district surveyors, he might mention that some of them were very diligent—he might almost say precocious—in condemning houses, and others of a totally different turn. A case occurred in his own ward, in which the district surveyor condemned the front wall of a house, and, upon the opinion of another surveyor being obtained that the wall was not at all in danger, the matter was compromised by removing a portion of it.

If the surveyor, when appointed to survey, be too fast, he may bring ruin on an individual by unnecessary condemnation; if too slow, an accident may occur and lives be lost.

The *Times*, in a leading article induced by the accident in question (wherein it is right to say the error of attributing blame to the district surveyors is not fallen into), says:—"But while the Commissioners of Sewers must bear their own share of blame in this matter, others also are in fault, and there is not a more pointed satire on London architecture than the fact that the house in question has fallen after only 200 years." And then we find at the close of the article that these "others" are our architects:

"until our architects," says the writer, "rejoice in their materials and know how to use them, we can have little expectation of their building houses that are to last." Now, as to the house having fallen after only 200 years,—where will be the majority of the houses recently built and now building in the metropolis and suburbs at the expiration of that time? Where will they be in fifty years? No where. Hundreds of houses are being erected at this moment with rotten bricks, bad mortar, and bad workmanship, which in twenty years will be ruinous structures.

But what control have "architects" over these? None. These houses are erected to *sell;* and the problem sought to be solved by the builders of them is, how to comply with the Building Act and to make them stand with the least possible outlay. Even when an architect has to overlook them on the part of the landowner, all that he can do usually is to see that the *minimum* is not passed. The fault does not rest with "our architects."

On the day following the very sad occurrence we have referred to, an accident happened at the new Wellington Barracks in James-street, Buckingham-gate, now in progress by Messrs. Dales, builders, under Captain Grant, and Mr. Roberts as head clerk of the works. The daily papers have made the particulars known, although not quite correctly. The stone core for the top cornice had been put on ready to receive the brickwork of the blocking or parapet above, and was about to be secured by iron cramps to the brickwork below, when several of the men being around a pot-boy to get their beer, one of them stood upon the projecting core and brought a part of it over. About 20 feet of the core, some of the brickwork, and six men with it fell on to the scaffold, and then to the ground with great violence, when one man was unfortunately killed and the others were much injured. The top stones lay 1 foot 7 inches on the wall, and projected 1 foot 7 inches: the under stones were 1 foot 7 inches on the wall, and projected 1 foot 3 inches. The foreman was away seeing after the missing cramps. After evidence had been heard, the verdict was, "That the death of Thomas Conner was occasioned by a portion of the cornice falling on him, but had the iron cramps directed to be used by the specification been applied as the building progressed, the accident would have been prevented."

Some importance was attached to the fact that the scaffolding was not formed with putlogs of the usual character, but of sawn quartering, about 4 inches square, and was much wider than usual, namely, about 7 feet, and it was urged by one witness who came forward, that if this had not been the case, the weight that fell, about ten tons, would not have broken through the putlogs. This, however, is doubtful. The scaffold was certainly weaker than an ordinary scaffold: the increased width had been enforced by the necessity of fixing it at the bottom clear of the gas and water pipes which supply the Palace; but it is doubtful if a narrower scaffold would have withstood the concussion. The mass reached the ground with such force that it drove in an 18-inch area wall built in cement six months ago.

This is unfortunately not the first fatal accident that has occurred at these barracks in a similar manner, and should induce care, not merely there, but in all building operations.

DISTRICT OF NEWINGTON AND LAMBETH. — A vacancy in the office of surveyor to the district of Newington, and the central division of Lambeth, under the Metropolitan Building Act, has been caused by the death of Mr. George Porter, which unfortunately took place a few days ago.

ROMAN REMAINS IN SHROPSHIRE.—An interesting discovery, it is said, has just been made of the remains of a Roman villa, on the property of the Rev. T. F. More, of Linley-hall, Shropshire.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION IN SOMERSET.

OUR notice last week brought up the proceedings to the end of the third day: we must pass more rapidly over the events which followed. On Thursday, 28th August, the members proceeded to visit in succession Clevedon Church, Walton Castle and Church, Walton-in-Gordano Church, Canenor Court, Clapton-in-Gordano Church, Cadbury Camp, Tickenham Church, and Clevedon Court.

Walton Church is a solitary ruin. Walton Castle is situated on a lofty hill, commanding a beautiful view. The ruins consist of an octagonal wall, with a tower at each angle, and, in the area thus formed, of an octagonal keep with a tower at one angle. Cadbury Camp, a Roman fortification, is formed by two ramparts made of loose stones. It occupies a commanding point, overlooking the Vale of Nailsea on one side, and of Portbury on the other. Clevedon Court, the seat of Sir A. H. Elton, dates from the reign of Edward III. but was restored in the time of Elizabeth, and has since received many alterations and additions. An evening meeting was held in Bridgwater, and then the next day the members took their departure for Bath, where they were kindly welcomed. The business here was opened by Dr. Markland, who read a very elaborate and elegant address on

Bath and its History.

We must take a few paragraphs. Bath, said the reader—"When compared with some other English towns, possesses but few attractions to the antiquary: still, if he has an eye for whatever is picturesque, the stranger must be struck with a city of great beauty, placed in a country of almost unrivalled loveliness. Speaking of the city itself, Macaulay says, 'It charms even eyes familiar with the masterpieces of Bramante and Palladio.'

The reign of Queen Elizabeth was a marked era in Bath as elsewhere. She visited Sir John Harington, a favourite godson (the translator of the 'Orlando Furioso'), at his mansion at Kelweston (Kelston now pronounced), in 1590. Sir John had employed an Italian artist, Barozzi, to design for him this mansion, which he had fitted up in a style of magnificence suited to the taste of the age. The mansion which preceded this, built by Sir John's father, the grantee of Kelston (he having married a natural daughter of Henry VIII.), is said to have been the largest at that time in the county ('Nugæ Antiquæ,' p. 8). It seems somewhat strange that it should have existed only during one generation. Probably the poet's Italian villa was an adaptation of the older residence to a taste growing into fashion. The queen, we are told, dined 'right royally under the fountain which played in the court.' It is to be regretted that every vestige of this mansion, even of the fountain and the court (part of an old wall excepted), has been swept away: some outbuildings remain, and the foundations of the mansion-house may be traced. A letter addressed by Sir John Harington (probably to Lord Burleigh), presents a view of the city worth repeating on the present occasion.

'The citie of Bathe, my Lord, being both poore enough and proude enough, hath, since her Highnesse being there, wonderfully beautified itselfe in fine houses for victualling and lodging, but decays as fast as their ancient and honeste trades of merchandise and clothing. The faire church her Highness gave orders should be re-edified, stands at a stay; and their common sewer, which before stood in an ill place, stands now in no place, for they have not any at all, which for a towne so plentifullye served of water, in a country so well provided of stone, in a place resorted unto so greatly (being at two times of the yeare, as it were, the pilgrimage of health to all), methinke seemeth an unworthie and dishonourable thing. Wherefore if your Lordship would authorise me, or some one wiser than me, to take a stricte account of the money, by her Majestie's gracious graunt gathered, and to be gathered, which in the opinion of manie, cannot be lesse than ten thousand pounds (though not to wrong them, I thinke they have bestowed upon the pointe of ten thousand pounds, abating but one cipher) I would not doubt of a ruinate church to make a reverent church, and of an unsavourie town to make a most sweet town.'

Sir John, being 'by the unanimous consent of his own age, a man of extraordinary wit,' gave one specimen of it regarding the Abbey Church; for we are told that, conversing with Bishop Montague near the Abbey, it happened to rain, which afforded an opportunity of asking the bishop to shelter himself within the church: care was taken to convey the prelate into that aisle which had been despoiled of the lead, and was nearly roofless. As this situation was far from securing his lordship against the weather, he remarked that it did not shelter him. 'Doth it not, my lord! then let me sue your bounty towards covering our poor church; for if it keep us not safe from the water above, how shall it save others from the fire beneath?' The bishop, we know, became a liberal benefactor.

The style of domestic architecture existing in Bath, at the beginning of the last century, and the species of accommodation afforded to visitors in lodging-houses, may be best gathered from the curious plan which you will find suspended in the lobby. Our intelligent librarian, Mr. Charles Palmer Russell, who is more conversant with the ancient maps or plans of Bath than any other person, and possesses probably the most perfect collection of them, tells me that the plan in question appeared at *three* distinct periods.

To these houses and to this plan you will remember Mr. Macaulay refers. The writer quoted by him is the architect Wood, who published an account of Bath about 1740. He tells us that in his younger days, 'about the year 1727, the visitors to the springs were exposed to the greatest discomforts — the floors uncarpeted and coloured brown, with a wash made from soot and small beer, in order to hide the dirt' (ii. 348). This quotation has exposed the historian to an attack from his bitter reviewer in the *Quarterly*, who censures him for transplanting into the life of Charles II. what belongs more properly to the reign of George II. Evelyn's and Pepy's Diaries, which are also referred to by Macaulay, do not exactly confirm his statements: the former describes the city with streets 'narrow, uneven, and unpleasant.'

Pepys paid a visit to Bath in 1668; so that the first time he saw the city he had attained his thirty-sixth year — an additional proof how little locomotion prevailed in his days. He tells us that he 'resolved to see the Bath and, it may be, Bristol.' He commended the country as, indeed, it deserves. He pronounces 'the town clean, and the streets narrow.' The bathing 'by wholesale, so many bodies together in the same water, struck him as not clean.' The walls of the city he describes as 'good, and the battlements all whole.' Of these but one insulated fragment remains, viz. in the street still called the Borough-walls, near the General Hospital; and, as it has been mentioned in print, I may add, that had I not interposed at a critical moment, this interesting relic would have disappeared. A brighter day approached; but the new buildings, before 1720, were chiefly devoted to public purposes. Between 1727 and 1748 many handsome houses were erected on land belonging to Mr. Gay, the Duke of Chandos, and others.

The talents of Wood have not been fairly appreciated: Warburton strongly censured him, as, unhappily, he did men in general. Many of Wood's works will not stand close criticism, but on the other hand, there are several which prefer strong claims to praise: the north side of Queen-square and Prior-park are the productions of no ordinary architect. I would also call your attention to some specimens of domestic architecture, which existed in the days of Allen and Nash, from drawings by Mr. Lansdown, now laid upon the table: others might be placed before you of the same period, where something of a palatial character was given to the residences of such men as Viscount Weymouth and Mr. Allen. When London was little frequented by country families, these winter residences in provincial cities furnished to their inhabitants many of the gaieties which are sought by the present generation in the metropolis. This change is,

of course, the main reason why many of our provincial towns have fallen into decay."

The Rev. Mr. Scarth followed with a paper on the Roman antiquities of Bath, of which he gave a very full account. Mr. C. E. Davis, architect, read a descriptive paper on the churches of Bath, and then, under the same gentleman's guidance, the members visited the cathedral and other structures in the city. There was a public dinner, with some interesting speeches; and in the evening Mr. Pettigrew read a paper

"*On the Prevalence of Yew-trees in the Churchyards in Somersetshire, and on other Funeral Emblems derived from the Vegetable Kingdom of Nature.*"

"Prior to the invention of gunpowder, the demand for bows must necessarily have been very great, as warlike proceedings were chiefly carried on by archers. This may perhaps account for the great plantation of yews, and the churchyard would not only offer a place of security for their growth, but also probably give a suitable soil, these trees requiring a damp ground, or one of clay and loam. At what time yew-trees were first planted in churchyards does not appear to be known, either to botanists or to antiquarians. There is a statute 35 Edward I. (1307),—*Ne rector arbores prosternet in cemeterio*,—which Dallaway thinks may probably refer to them, and to their being planted for the supply of bows to the parishioners. An Act of the time of Edward IV. ordains that every Englishman in Ireland, and every Irishman in England be furnished with a bow of his own height, and made of yew, witch-hazel, or ash. Witch-hazel was used by persons under seventeen years of age, to prevent the great consumption of yew.

The wood of the yew was well adapted to form bows, being very firm and compact in its growth, presenting very small annual rings; so much so that no less than 280 have been counted in a piece of wood only 20 inches in diameter. The tree is of very slow growth, and attains a great age. Sir John Sinclair mentions one in the churchyard of Fontingall, in Perthshire, measuring 52 feet round, which is, I believe, the largest known: at Kerne churchyard, Devon, there is a yew-tree measuring 27 feet in girth; and at Mamhead, in the same county, one of 29½ feet: at Staverton churchyard there is one, according to Mr. Polwhele, of many hundred years' standing, it being supposed coeval with the church. The trunk of this tree is now so excavated by age that several people may walk into it together, and there stand erect. At Hardham churchyard, Sussex, are the remains of an English yew of gigantic dimensions: its trunk is capable of holding twenty-seven people, its girth 23 feet, and, supposing it were solid, it would contain not less than 500 cubic feet of wood. Thirty-three years since the top of this tree was blown down. It is of a great age. The period of endurance of yew-trees has not been ascertained; but it is very confidently stated that there is evidence of their having existed for more than 1,000 years. They never grow to any great height, 58 feet being, I think, the tallest known: this is to be seen in the churchyard at Harlington, near Hounslow. Fountains Abbey, in Yorkshire, is remarkable for its yew-trees, which are said to have attained their growth at the time of the erection of the abbey, as far back as A.D. 1132. It is singular that there should exist no very theological legend connected with the yew. Mary Queen of Scots had a yew-tree on her coinage to perpetuate the Cruxton Yew, beneath which she gave her consent to marry Darnley. The tree is indigenous to this country, and when its longevity, its durability, and the perpetual verdure it presents, are taken into consideration, it is not surprising that it should have been recognised as an emblem of the immortality of the soul, and employed about our churchyards to deck the graves of the deceased."

Flowers, says Mr. Leigh Hunt, "besides being beautiful themselves, are suggestive of every other kind of beauty—of gentleness, of youthfulness, of hope. They are evidences of Nature's good nature; proofs manifest that she means us well, and more than well; that she loves to give us the beautiful in addition to the useful. They naturalize bad with good; beautify good itself; make life livelier; human bloom more blooming; and anticipate the spring of heaven over the winter of the grave. Their very frailty and the shortness of their lives please us, because of this their indestructible association with beauty; for while they make us regret our own transitory existence, they soothe us with a consciousness, however dim, of our power to perceive beauty; therefore of our link with something divine and deathless, and of our right to hope that immortal thoughts will have immortal realization. And it is for all these reasons that flowers on graves are beautiful, and that we hope to see them prosper accordingly."

On Saturday the excursion included Widcombe Old Church, Prior-park, Combe-down, Hampton-down, Bathampton Church, Batheaston Church, Little Sodbury, Swainswick Church, Langridge Church, Lansdown; Waller's Entrenchments, Roman and British encampments, rendezvous at the grand stand on the race-course, Chapel of St. Lawrence, and Charlcombe Church. It will be admitted by all who are conversant with the above route, that it can scarcely be surpassed in scenic beauty or interesting associations in any part of England; for whether the visitor revels amidst the delightful scenery of Prior-park, so intimately associated with Ralph Allen, Bishop Warburton, and Pope, or explores the well-defined remains of the Roman and Belgic encampments on Hampton-down, Solsbury-hill, and Lansdown, or contemplates the venerable memorials of the dead in the sacred edifices of Swainswick, Bathampton, and Langridge, he will find abundant sources of mental gratification and interest.

Papers descriptive of the various churches visited, were read by Mr. Jeffrey, and on the earth-works by Mr. Scarth, and are reported, we may say, in the *Bath Chronicle*. Of

Wellow Tumulus,

Mr. Scarth said, that, together with the camps and places of worship, or judicial meeting, of the Belgæ, or other ancient British races, must also be noticed their burial-places, of which the most perfect in this kingdom, and he believed nearly the last, still exists at Wellow, four miles from Bath, and within the boundary of Wansdyke. This is a chambered tumulus, which has been carefully described by Sir R. C. Hoare, in the 19th vol. of the "Archæologia," where an accurate drawing of it, and measurements made by the late Mr. Skinner, of Camerton, are given. A similar chambered tumulus exists at Uleybury, in Gloucestershire, and has been described by Dr. Thurnam, in the Journal of the Archæological Institute, which contains also a drawing of it. Another formerly existed in the parish of Butcombe, which is described in one of the old numbers of the "Gentleman's Magazine," and a drawing given of it there. This, he regretted to say, is now totally destroyed. Mr. Phelps, however, has recorded it in his History of Somerset. The tumulus at Wellow would by this time have probably shared the same fate, had it not been discovered to have become ruined by the frost of the winter before last, by two of the members of the Bath Naturalists' Club, who had walked over to examine it. This being represented to the Somersetshire Society by one of the members, he was empowered to have it put into its original state, so that no further damage might ensue, which has accordingly, by the permission of the owner of the property, and the occupier of the farm, been done effectually, and it is hoped that this ancient record of the primitive places of sepulture of our British forefathers, may be preserved still for many years. He need hardly remind this learned body that the most striking monument of this kind which still exists is to be found at New Grange, in Ireland, and has been described in the "Archæologia," by Gov. Pownall, who has written so much and so well on the Roman antiquities of Bath.

The writer in the *Gentleman's Magazine*, who describes the chambered tumulus, near Butcombe Church, supposes it to have been the burying place of the Druids, the priests of Stanton Drew, from whence it is distant four miles, lying in a still and secluded hollow. It was more probably the mausoleum of some chieftain's family of the same period when the temple of Stanton Drew was invested with all the sanctity of early superstition.

In Langridge Church, which is only 50 feet long by 18 feet wide, a fine Anglo-Norman entrance challenged admiration. Among the monuments are the effigy of a lady, in the dress of the reign of Henry III. and a Virgin and Child of still more remote antiquity. The members all agreed in the value and interest of the latter relic, and will probably take steps, either by a plaster cast or by an illustration in their published proceedings, to obtain the opinion of antiquaries upon the probable date of a work of art which may prove to be one of the earliest essays of English sculpture.

At the concluding meeting a paper was read by Mr. W. Tite, M.P. "On the Condition of the Working Classes, and of their Dwellings during the Middle Ages," and then some complimentary resolutions closed a very successful congress.

Mr. Pettigrew, in acknowledging a vote of thanks for his aid, reviewed the labours of the association during the week, pointing out the services it had been enabled to render to science, and acknowledging the assistance which it had received from the local authorities. Mr. Pettigrew also expressed the obligations which archæology owed to Mr. John Britton, and the gratification it gave him to see the veteran antiquary present upon the occasion. This allusion was loudly cheered by the company.

We may add that in the examination of churches the members were assisted by Mr. Burnell, architect, in addition to the gentlemen already named.

MUNICH.

The Old Mural Paintings.—The old paintings found at the house of M. Lebeling, in the Promenade Strasse, some time ago, have now been completely restored and elucidated. They have been purchased for the Bavarian National Museum, by King Max, who took such interest in them, that the process of restoration by the artist, M. F. Reichard, was reported by telegraph to Berchtesgaden, probably the only time that *art* has been thus honoured and noticed by any kingly personage. The first difficulty was to remove them from the wall, and place them on wood, which process was also witnessed by the art-loving king. As far as technicism is concerned, the mural paintings are no frescoes, as first thought, but oil paintings. The colours being strongly pictured on a well-polished ground of plaster of Paris, could be detached in large flakes, but they had originally covered the whole surface, and being made in a bold and free hand, bespeak a very skilful artist. Where, however, the colours have not scaled off, which is not often the case, they have remained in their original freshness, and only the violet and the carnation tones have somewhat suffered. The place where these paintings were found, formed an oblong square, 28 feet long, and of proportionate breadth, and probably all the four walls had had similar ornamentation.

On the north side appear in a frieze, 4 feet high, nine representations of the life of Christ, viz. the Miracle of the Loaves and Fishes, the Samaritan at the Fount, &c. On the walls below the frieze, other subjects are represented, amongst them a picture of the Trinity, 7 feet high and 6 feet broad. The painting completely exhibits the character of the Bavarian school at the end of the fifteenth century, as on the very interesting picture which Hans Olmdorf painted in 1491, for the altar of Blumsberg, similar ideas and figures are to be met with. Six painted medallions, lackered with gold and silver, on red, which appeared on the upper northern wall, under the frieze, show clearly the place where the chandeliers have been placed, which proves that the locality was used once as a chapel. The great number, variety, and execution of these mural paintings, constitute them some of the most interesting of the present time. Hence, therefore, they were first considered older than they really may be. According to the details of the costume, which in some cases is gorgeous, they were painted about 1480 or 1500. The last question to be determined was,

who can have been the private individual who, at such a remote period, and when Munich was a small town, could have had this private chapel thus richly ornamented. There exists a *Saal und Grundbuch* of that city of 1630, and a still older relievo model of Munich, made by Jacob Sandtner, about 1571. In the latter appears a stately, old-fashioned house, at the corner of the then Pranner-strasse. It has been, therefore, thought that these fine chapel-buildings have been made for a rich brewer, Nicod. Hering, whose house appears in 1465, as one of the rateable property.

The Schelling Monument.—This memorial, erected by King Maximilian to his teacher, is one of the finest of modern times. It presents a monumental *façade* of three compartments; the architectural proportions, the splendid arrangement, and the artful ornamentation of which speak highly for its talented projector. The upper portion of the monument consists of a pediment, which is open below, and surmounted by rich acroteria, above which a cross is placed. A square, widely scooped out, and opening, conceals the colossal *bust* of Schelling, on an ornamented pediment, made by Halbig. The second compartment of the monument has the same main breadth, but the cornice projects on both sides about 1½ foot, and is supported by two caryatides, above the heads of which capitals with rich acroteria are placed. Another square recess shows an *alto-relievo*, where the philosopher is represented as teaching a host of young men, in a hall supported by pillars. These two compartments of the monument are of the marble of Schlanders. The third (lowest) compartment of the monument, built in a pyramidal form, consists of a socle, divided into two parts, and is of Salzburg and Swiss marble, of a red tint, contrasting with the colours of the upper part. The height of the monument is about 18 feet, and the arch 10 feet broad. The caryatides hold stiles and tablets in their hands. The sculptures of the Schelling monument were executed by M. Kuntner. The plan has been made by the Oberbaurath and Professor of the Academy of Munich, M. Ziebland.

THE DISPOSAL OF THE DEAD.

WE still hear of interments in positions where they should not be permitted, and find individuals even now obstinately denying the evil of piling up dead bodies in the midst of the living. During the inquiries into the Rugeley poisoning cases, two bodies, which had been for a space of time interred, were dug up, by legal authority, from what was supposed to be their last resting-place. One had been put into a wooden coffin, the other into the more aristocratic casing of lead. According to the newspapers, the two coffins were removed from the graves to an inn. The corpse in the wooden coffin was dry—the gases had evaporated; but in the other instance (the lead coffin), on boring a hole, and afterwards making a larger opening, the poison that escaped was such that several of the jury fainted, and all were affected. Does not this make the evil clear?

Many of the London grave-yards have been closed, and the rest must follow: it will never do to continue burying 130 bodies on a single Sunday in one grave-yard, as we are told is the case at present at Bethnal-green.

Instead of the thickly-packed metropolitan grounds, burying places have been provided in various parts of the suburbs. This has led to considerable changes in the cost and manner of funerals, which press rather hardly on the poor, particularly when old-fashioned plans are persisted in.

The strong arm of the law has obliged the parish authorities to remove the graveyards to a distance: this causes an expense of from 15s. to 1*l.* for conveyance alone from St. Pancras to Finchley, and so in proportion. This sum in addition to the cost of the ground and other fees, is a serious one to many; and the bodies of the dead are, in consequence of the difficulty of raising it, often kept at home until they have become dangerous.

When an individual in the midst of two or three millions of people dies, the body ought to be removed without loss of time; but then, survivors say, how can we part suddenly with what remains of those we have so much loved. The parishes, in several instances, have provided places for the reception of bodies until the friends of the deceased can arrange for the funeral. The value of this accommodation is very great, particularly when the receiving-houses for the dead are well placed, and yet it is not much used by the great numbers of the London poor who so much require it. In some instances, too, the London undertakers have made provision on their own premises for the reception of the dead until the time fixed for the funeral. This is not always good, for many of these places are in close neighbourhoods, where numbers of persons are living all around—indeed, in some cases, in the same house. Prejudices have to be overcome, and all may aid in doing this. There are often difficulties in the way of an early burial, and in such cases the body should be removed to a proper reception-house, where it could remain till the arrangements were complete.

Accounts and engravings of funeral pageants—in the olden time—show that the pomp and display and cost were extraordinary. The expenses on these occasions often crippled even noble families for years. With each succeeding generation, as information has spread, the heralds' emblazonry, the banners, the feasting and inebriety of such ceremonials have been gradually dispensed with. The other day the venerable poet Rogers was, at his own request, quietly buried in the pleasant churchyard at Hornsey. He might have been carried with all the pomp and feathers to Westminster Abbey: the poet's choice showed the poet's sense. Sir Robert Peel wished to be and was unostentatiously buried. Other eminent men have set the same good pattern. All this, together with the absolute need, will work its effect. It requires many efforts, however, to conquer old prejudices, and to overcome ignorance.

We grieved to see that in the case of the premier's brother, Sir William Temple, evil was persisted in, with a full acknowledgment that it was evil. The body was interred in Romsey Abbey Church, under the west window. It is stated that "Every precaution which modern sanitary science has made known was followed. The coffin, surrounded by powdered charcoal, was to be bricked in, and a small tubular shaft projected from the vault, through the wall, to the outside." Lord Palmerston ought to have carried his own views and enactments into practice.

The graveyard question, not yet quite settled, must not be overlooked, if we would have the Registrar-General continue to show clean bills of health.

"STEEL AND MALLEABLE IRON MADE WITHOUT FUEL."

ALTHOUGH, as we have already noted, the great discovery of Mr. Bessemer (taking for granted in the meantime that it will really prove itself ultimately not unworthy to be so called), is not, strictly speaking, a formation of steel and malleable iron without fuel,—we still retain the title by which the process has become known. Since our last article appeared, an immense amount of correspondence has been printed and published on the subject, *pro* and *con.*,—much of it evidently by interested parties, especially those who feel alarm rather than pleasure at the idea of the introduction of such a process as that contemplated.

The main *facts* to be recorded since our last are, the repetition of an experiment by Mr. Bessemer, to show to experienced persons the nature and results of his process, and trials by others, showing the alleged result of testing (so far) the iron yielded in Mr. Bessemer's experiments.

A correspondent of the *Staffordshire Advertiser*, last week, in announcing the result of the second trial referred to, says,—

"The opinion that Mr. Bessemer's invention will prove the precursor of a complete revolution in the iron trade continues to gain ground. A second trial was made on Monday last, and amongst those present were General Lord Rokeby, Mr. J. H. Blackwell, Mr. Richard Smith, Mr. James Nasmyth, Mr. Thomas Barker, Mr. E. B. Dimmack, Mr. H. Firmstone, Messrs. Walker, of Gospel Oak; Messrs. Davis and Bloomer, Mr. Henry Martin, Mr. Thomas Rose, Mr. E. J. Wright, Mr. Haden, Mr. Smith, of Windmill End; Mr. James A. Shipton, Mr. Jobson, and many others. Seven hundred weight of gray Blaenavon pig—which is *a very first-class quality of pig iron*—was melted in a cupola, whence it was run into a converting furnace, and after undergoing Mr. Bessemer's process for twenty-six minutes, was tapped out. Numerous small specimens have been brought into the district, and have been rolled and beaten out into thin sheets and small bars. The iron produced is malleable and fibrous, and no doubt of the excellence of the invention remained on the minds of those who witnessed it. Many are *desirous of seeing it tried on ordinary kinds of pig iron*, in order to see if it would be equally efficacious with them. Although in several cases small portions of the iron so produced have been rolled out—in one case spread over the surface of a hoop in a very thin layer—and the general appearance indicates its toughness and excellent quality, so far as we have heard no careful test of its power of resistance has been made, although a gentleman is about to make one with a small bar. Several applications from some of the first iron-masters are said to have been made to Mr. Bessemer for licenses to use his invention, but it is further stated that the inventor demands 10s. per ton on all iron produced by the process as his charge for permission to employ it. If the process were applied to all the iron made in the kingdom at this rate, Mr. Bessemer would receive a million and a half sterling per annum. It is generally thought that if the invention has such a price put upon it the temptation would be so great as to lead to numerous attempts to evade the patent, which would lead to lawsuits, and perhaps to its loss; and that Mr. Bessemer would consult his own interest by fixing a much lower rate of interest for the use of his invention. It is said that a license for the use of the new process has been taken by the proprietors of the Dowlais Works, in South Wales, formerly belonging to the late Sir John Guest, but the terms have not transpired."

This alleged license involves another of the reported facts to which we alluded. The *Merthyr Guardian* states that Mr. Bessemer's process was tried at the Dowlais Works in course of week before last, and that although—

"The blast-pipes by some means became clogged, so that the full amount of cold air could not be brought in contact with the liquid metal, nevertheless, the experiment was considered eminently successful. Iron of a tolerable quality was produced, capable of being worked by smiths into the various articles that may be required."

In reference to the material produced at the first trial, a correspondent of the *Wolverhampton Chronicle*, who describes himself as one of the witnesses of that trial, says,—

"Undoubtedly, malleable iron was produced, just as described by Mr. Bessemer himself; and a piece of the spongy scrap spilt upon the ground, or knocked off the corner of the ingot then made, was this morning, by the help of a blacksmith's fire in this town, shaped into a very satisfactory little piece of wrought-iron bar, exhibiting fibre in its fracture, and otherwise indicating good quality. None doubted that completely malleable iron had been produced; and the general impression seemed to be favourable as regarded the ultimate success of the invention; but it was an equally general impression that practical difficulties would prevent the present puddling process being immediately superseded. *The experiment would have been much more satisfactory had an average good quality of pig iron been employed instead of the 'Blaenavon,' which is a first-rate iron.*"

While the iron was thus being tested and declared to be malleable iron, many writers were proving that it would not and could not be malleable iron. It certainly casts a doubt upon the importance of the alleged results, however, that common pig iron was not used *in either trial.*

The Wolverhampton correspondent of the *Mining Journal* says, in reference to the iron of the first trial, "I have seen some specimens of the iron then made, which has been rolled and hammered, and which exhibits great toughness, and is acknowledged by all who have seen it to be of excellent quality." And another correspondent of the same paper states that at a blast furnace of his in South Wales, by a singular accident, which occurred while Mr. Bessemer was in the act of reading his paper to the British Association, "the very malleable iron which he was then describing" was produced by means of a blast of hot air playing on some of the

crude metal which had got separated by the giving way of a part of the lining of the furnace, and which the workmen had to cut out afterwards with the cold chisel, occasionally bestowing anything but blessings on the "infernally tough stuff," which, however, was thrown away, but afterwards sought out and tested when Mr. Bessemer's paper was published, and found to be "to all intents and purposes a malleable iron."

The specification of patent under which the American, Mr. Martien, claims priority of discovery, or at least of patent right, to Mr. Bessemer, plainly shows that he never contemplated the production of steel or malleable iron on the great scale, if at all, nor the melting of steel and malleable iron by intense heat, produced in a manner without fuel, as Mr. Bessemer did; the air, in his process, being applied to the cast-iron in the mere "channel or gutter" through which it was to "flow from" the blast furnace, or the refinery furnace, into the mould. An attempt is now being made to convert this "channel or gutter" into "a vessel," or gigantic cupel, such as Mr. Bessemer's; but there is little chance, we should think, of such an attempt being successful. The mere refining of iron by means of air, in whatever way accomplished (and many ways have been resorted to), is not the only, or the chief, point at issue.

In conclusion, and on the whole question, we can only, in the meantime, repeat what we have already said,—that, *if there be no exaggeration here*, the productibility of cast steel and malleable iron will now, and only now, become commensurate with the great scale on which pig-iron has heretofore been produced, and the cost of both cast-steel and soft-iron accordingly, as well as from saving of fuel and time, be immensely reduced.

CHURCH-BUILDING NEWS.

Lincoln.—The church of St. Michael on the Mount is to be opened for Divine service on the 16th inst. The building consists of nave, transept, north aisle, and chancel, and is capable of accommodating 350 persons, in addition to the boys of Christ's Hospital. The church is in the Early Decorated style, with a five-light window at the west end, and a four-light window in the transept, and two-light north and south windows. Three two-light windows in the chancel (which has an apsidal termination) have been filled in with stained glass, to the memory of R. Smith, M.D. the founder of Christ's Hospital, and to that of the late Bishop of Lincoln. The porch has been left in an unfinished state, until funds can be obtained to build a tower over it. It was the original design of the architect to build a bell turret over the chancel arch, for which the east wall of the aisle and transept form the buttresses; and the transept also materially tends to support the south side of the church, which is built on the side of a hill, and the foundations have been taken down to a great depth. The roof timbers of the building are stained. The seats are made of yellow pine, stained and varnished. The paving is of Yorkshire stone, with Minton's red and black tiles in various patterns. The carvings have been executed by Mr. Mowbray; and the gas fittings have been furnished by Messrs. Skidmore, of Coventry. Mr. Teulon is the architect, Mr. Ward the builder, and Mr. Geo. Bacon the foreman.

Worcester.—St. Martin's church, which has been closed during the last four months, for the purpose of making some extensive alterations and improvements therein, was re-opened for divine service on Tuesday in last week. Among the alterations is the new window at the east end, for the better display of which the arch over the communion has been raised. It is after the Byzantine style, designed by Mr. W. H. Hopkins, who has superintended all the alterations, and the stonework has been executed by Mr. Norman. The glass is not completed, and the effect cannot be even guessed at from the small quantity at present fixed. There were formerly two aisles up the sides of the church, but the whole of the pews have been re-arranged, and now give eighty additional sittings, or about 560 in all; a portion of them free. The flooring, which was in a very bad state, owing to the frequent opening of the vaults which run under the whole of the edifice, and at times emitted offensive and unwholesome smells, has been entirely renewed: the vaults have all been arched and covered with concrete, while ventilators are introduced all round the building so as to keep up a current of air under the flooring. The brick and woodwork have been executed by Messrs. Priddey and Son, Lowesmoor, and the ceiling and walls have been coloured by Messrs. Collins and Langford. The entire renovation has been undertaken by the rector, the Rev. T. L. Wheeler, on his own responsibility, but he has received considerable assistance.

Stroud.—The portion of the new cemetery on Stroud-hill, intended for the burial of members of the Established Church, was consecrated by the bishop of the diocese on Monday before last. The new cemetery is a sloping piece of ground, five or six acres in extent, situate about a quarter of a mile out of the town, on the road to Bisley. It has been laid out with shrubs and walks by Mr. W. Foster, nurseryman.

Middlewich.—A mortuary window has been erected in the chancel of the parish church of Middlewich, to the memory of Miss Elizabeth Nugent, by her sister, Miss Lucy Nugent. The restoration of the window was carried out by Mr. Joseph Clarke, architect; and the glass was furnished by Mr. D. Evans, of Shrewsbury. The central compartment of the main window is taken from the Vision contained in Rev. xii. 4-6, as a symbolical representation of the struggle between Christianity and the Pagan Idolatry of the Old Roman Empire. Michael the Archangel, being "one like unto God," and being spoken of in connection with the angels as "Michael and his Angels," is regarded as identical with the Son of God himself in the principal subject, and the rest of the window is filled up with angels. The figure on the north side of the main window represents the angel which appeared to the women at the Sepulchre of Jesus. The south side represents the two angels which appeared to the Apostles after the Ascension of Jesus. On a line dividing the subject from the memorial is inscribed the "ter Sanctus."

Cardiff.—The whole of the niches in the chancel of Saint Mary's church, Cardiff, are to be filled up with painted glass. Mr. George Crittenden, architect, has been engaged in making preparations for the improvements.

Liverpool.—Some time ago it was arranged to erect, at Everton, a Roman Catholic cathedral. Mr. E. Welby Pugin furnished the design, which is that of a full cathedral edifice, to be dedicated in honour of St. Edward, and also to serve as a parish church. It is to be in the form of a cross, with a large central tower. The choir will be fully 100 feet long, with side aisles, and an interior elevation of nearly 100 feet. This space will be chiefly lighted by clerestory windows, enriched with tracery. The choir will be divided off from the northern portion of the edifice by a transept, 28 feet wide between the pillars, at the eastern end of which is to be placed the great window; the shorter limb of the cross projecting beyond the transept of the north. A portion of this structure was a considerable time since commenced, and is now rapidly drawing towards completion. This portion, as described by the local *Journal*, consists of that part of the edifice which is cut off from the choir by the rood screen, and which, in the completed cathedral, will be used as the private chapel of the dean and canons; and, in this instance, is to the south of the screen. It is 40 feet long, and has side aisles. This, in the present instance, will be used as the chapel of the college, with which it is to be connected by a range of cloisters. In addition to the private chapel, there is also included a transverse space, 20 feet wide by about 80 feet long, intended for the accommodation of general worshippers. The whole of this is in an advanced state, and the contractors, Messrs. William Baynes and Son, of Liverpool, will have it ready for consecration within a month from this time. The portion of the edifice now in progress, which may be taken as indicative of the general style of its architecture, is of the Pointed style. It is of rustic mason work, the walling being of Upholland stone; and the facings and dressing labels, as well as the window mullions, being from Stourton quarry.

Blackpool.—The new Roman Catholic Church here, which was commenced in May last, is now up to the eaves course, and will probably be covered in by the end of next month. It consists of a chancel, 24 feet long and 17 wide; nave and aisles capable of containing accommodation for 600 people; two transepts, with chapels, two sacristies, and a south porch, with a tower at the west end. The entire building measures 126 feet long by 60 broad. The stone used in the dressings is from the Minerva Quarries, near Wrexham: the rubble is from Yorkshire. This work is being erected at the sole expense of Miss Tempest, of Broughton Hall. Mr. E. Welby Pugin is the architect. The contract amounts to something over 5,000*l.* and is taken by Mr. Yates, of Liverpool.

Bolton.—A new Unitarian chapel, costing 3,900*l.* has been opened at Bolton. It is in the Gothic style, of the Early English period.

Glasgow.—In laying the foundation-stone of the new Free Church College and Church lately, in this city, Dr. Clark, hitherto of no mark or prominence in the denomination, gave the princely donation of 20,000*l.*

Brechin.—The new Free East Church, in Panmure-street of this town, has been formally opened. The roof is unceiled, and the couples and purlins are stained of dark oak. The large north window is fitted with stained glass. The gaslights are fixed in two groups of jets in the roof, the light being thrown down by reflectors. Except the roof, no part of the edifice is yet painted.

PROVINCIAL NEWS.

Ditton.—The roof and side of a house at Little Ditton, belonging to a bricklayer, had been in a tottering condition for some years, and fell in on Sunday in last week, but fortunately none of the inmates were hurt. Three cottages adjoining are all in much the same state, though still containing inhabitants.

Teignmouth (Devon).—The following is the list of tenders for building infant-schools, and alterations to old school buildings, at Teignmouth; Mr. Thomas Bradbear, surveyor. For the new buildings:—

Fletcher	£228	19	0
Soper	225	0	0
Willcocks	213	0	0
Prideaux	209	10	0

Including the alterations to present old buildings, the tenders were:—

Soper	£323	0	0
Fletcher	315	0	0
Willcocks	304	0	0
Prideaux	272	0	0

Liverpool.—The sculptural group on the tympanum of the portico at St. George's Hall having been much begrimed with soot and other impurities, says the *Journal*, has been thoroughly cleaned, ann the figures now stand out in much stronger relief. Since they have been cleaned, the figures have received a coating of boiled oil and turpentine, with a view to their preservation. The first of the colossal lions, intended as ornamental adjuncts to the eastern balustrade, was placed on its pedestal, at the southern angle of the balustrade, on Wednesday in last week. At a meeting of the St. George's Hall Committee of the town council, last week, Mr. Bennett complained of the continued expense going on at the boundary-wall of St. George's Hall. "Absurdity after absurdity," he remarked, "is added to it, until it will be found one large mask or screen to the hall. and a very heavy expenditure indeed. I have seen this morning one of the lions upon the pedestal, and a more absurd decoration I can scarcely imagine. The lions themselves are more like the chairman of St. George's Hall Committee than like lions. There are other things to do,—such as Lime-street to lower; why cannot that be proceeded with and done, before the enormous expenditure of ornamental gates, towering up about 15 feet, and overlooking an area you might jump over; and before the enormous globes, or whatever else is intended to be put on those granite pillars, with Mercuries flying on the top, to crown the absurdity of the whole." He trusted

the committee would stop before they incurred farther expense, otherwise he would move a resolution of council as to it.

Rotherham.—At the periodical meeting of the Local Board of Health, last week, the Board proceeded to the election of a surveyor, vice Mr. Baylis, dismissed. It was stated that there were forty-one candidates, and that the committee had selected four, viz. Mr. Charles Dobb, of Rotherham, who asked 100*l.* a-year; Mr. Charles Rawson, of Rotherham, who undertook to do the work for 100*l.* but required 200*l.* for his whole time; Mr. W. H. Stead, who required 75*l.* a-year; and Mr. John Hartley, who asked 130*l.* On the first vote the larger numbers were for Mr. Hartley and Mr. Rawson, and ultimately Mr. Rawson was elected by the casting vote of the chairman, at 100*l.* a-year, on the understanding that he was required to resign on receiving three months' notice from the Board to do so; otherwise Mr. Hartley to have the situation.

Darlington.—A committee of the Darlington Board of Health has reported in favour of erecting a fountain on the site of the ancient cross in that town.

Dundee.—The town council of Dundee have resolved, by a majority of 14 to 6, that the salary of their surveyor, Mr. Fulton, shall be raised from 250*l.* to 350*l.* a-year, for five years, with special reference to the increase of his duties in carrying out the drainage of the town, on which it is expected that for that period a sum of 10,000*l.* will have to be expended.

PROPOSED MONUMENT TO THE DUKE OF WELLINGTON.

SIR B. HALL, bart. M.P. as Chief Commissioner of Works, has given notice, that it is the intention of her Majesty's Government to erect a monument in St. Paul's Cathedral to the memory of the late Duke of Wellington, and has invited designs from artists of all countries. The cost, with all expenses, must not exceed 20,000*l.* The models by artists residing in the United Kingdom, must be sent in by the 1st of June, 1857; those by artists residing abroad, on or before the 25th of the same month. There will be a public exhibition of them in July, 1857. The following premiums will be given for the nine most approved designs:—

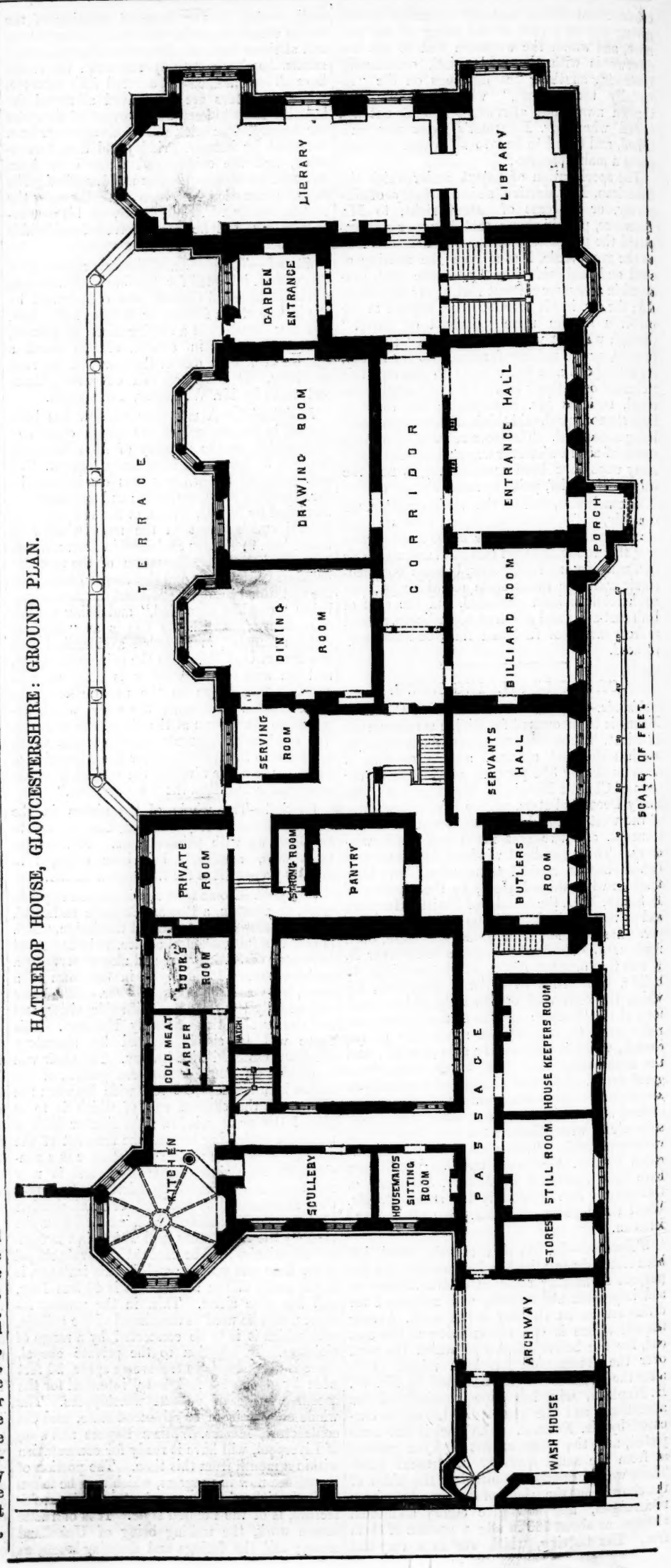
For the First	.....	£700
„ Second	.....	500
„ Third	.....	300
„ Fourth	.....	200
„ Fifth	.....	100
„ Sixth	.....	
„ Seventh	.....	
„ Eighth	.....	
„ Ninth	.....	

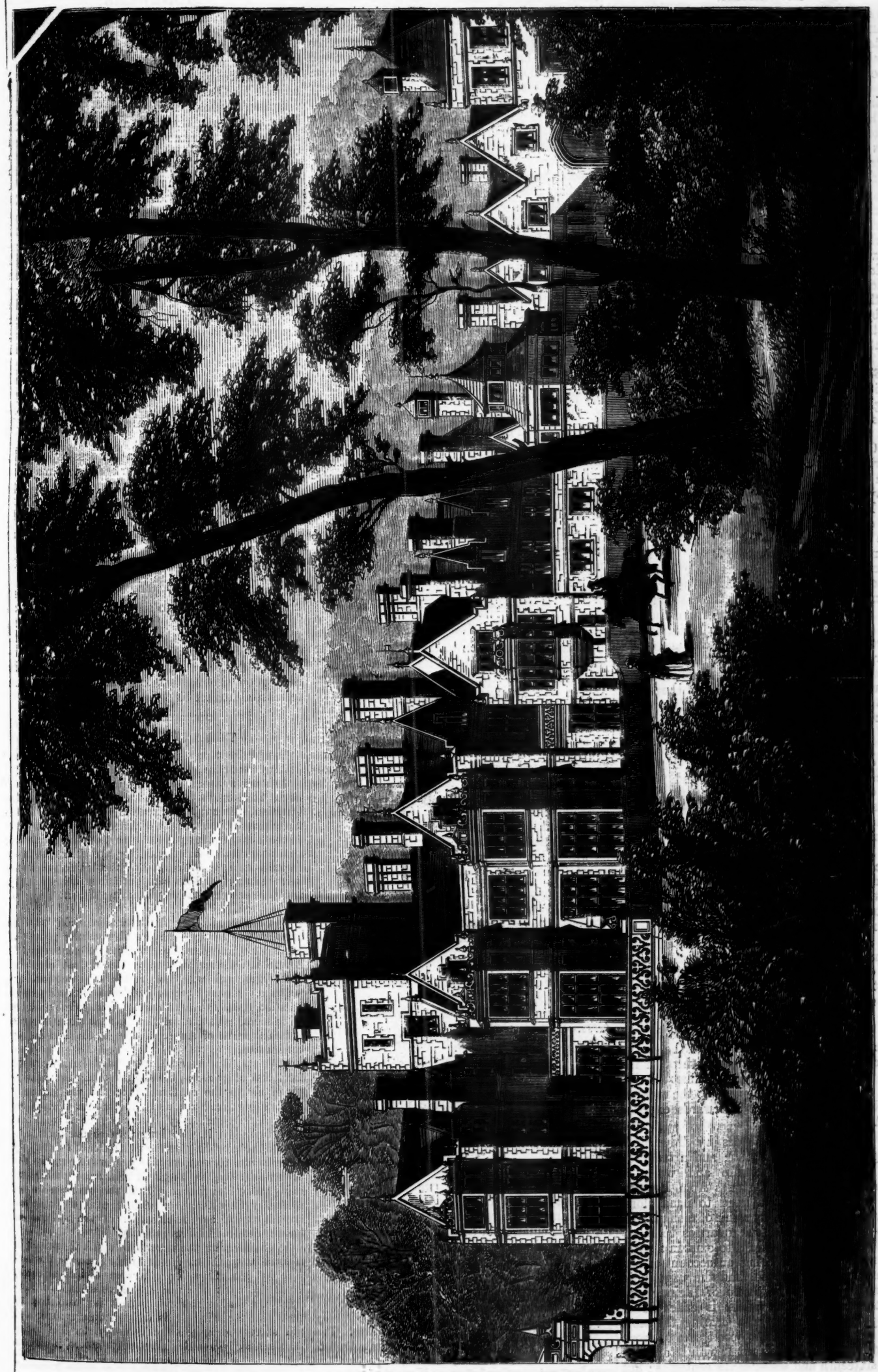
If, however, the artist to whom the highest premium may be awarded, shall be employed to execute his design, he will not be entitled to receive any premium. The models in respect of which premiums may be awarded, are to remain the property of Government.

Accompanying the instructions, the chief commissioner has issued a plan and sketches showing the position the monument is to occupy in the cathedral, a very necessary arrangement for distant competitors.

HATHEROP HOUSE, GLOUCESTERSHIRE.

THE residence of which we give a view and plan in our present number, is situated three miles from Fairford, in Gloucestershire. The building is erected with the stone of the county, the inside of the walls being lined with brick, the outside faced with limestone, with a dressed face. This latter came principally from Bibury, as also the stone for the dressings. Internally, the fittings are very elaborate, particularly the ceilings, which are highly ornamented in plaster decorations. The woodwork is of oak. The dining-room and drawing-room (internally) are the only parts of the building not yet completed. The joiners' work was executed by Mr. Ruddle, of Peterborough. The cost of the building, exclusive of stabling, will be about 20,000*l.* The architect is Mr. Henry Clutton, of St. James's.





HATHEROP HOUSE, GLOUCESTERSHIRE.—MR. HENRY CLUTTON, ARCHITECT.

ARCHITECTURAL MEMORANDA IN ANGLESEA.

THE north-eastern corner of the island of Anglesea contains many interesting examples of architecture for the study of the tourist archæologically inclined, as well as for the architect whose leisure or business may lead him that way. Within the compass of a few miles are remains dating from the early British period to the latest time that can be denominated "ancient," to say nothing of the world-renowned works of modern times which span the Menai Straits and seem to divert notice from those of an earlier age.

Beaumaris may be considered the centre of the group of remains of which I wish to give your readers a slight sketch, and to begin with the origin of the town itself. Beaumaris seems to have been of little importance previous to the time of Edward I. There are traces of an old Roman road running past the town towards Priestholme, which, no doubt, was in connection, by a track through the island, and across the strait, with the two Roman stations at Segontium (Caernarvon), and Conovium (Conway). In the year 1096 the earls of Chester and Shrewsbury invaded the island and the opposite country, and planted the first Norman strongholds on the soil. These earls built castles or forts at Bangor, and at Lleinog, about two miles from Beaumaris, towards the east. Of the castle at Bangor faint traces exist, overgrown with a young plantation, and standing on the cliff that overhangs the entrance of the town. The existence of this castle is so little known that even the inhabitants of the town cannot tell anything of it, nor are they aware that one ever existed. The site is, however, marked in the Ordnance Map. The castle of Lleinog, though almost as little known, is still nearly perfect as regards the outer walls. It stands on a rising bank, on the east side of a small stream, about a furlong from the sea-shore. A large and very lofty artificial mound is encompassed by a broad ditch, and there appear to be some outer earthworks at the approach from the brook, but quite obscured by thick underwood. On the summit of the mound stands the castle, a simple square inclosure, the walls about 9 feet high, built of undressed limestone, and at each angle a circular bastion of about 9 feet circumference and 15 feet high, three of which are almost entire. The parapet has been guarded by battlements, and projects about 6 inches, at 6 feet from the ground, and the bastions are loopholed. From the castle to the shore ran a covered way, and on a small promontory at its termination is a mound, on which a round tower formerly stood, though only a few scattered stones remain. It has evidently stood to protect the landing-place in the little bay below Lleinog. The Norman invasion, under the confederate earls, was eventually repelled, but apparently by a new claimant to the soil. Harold, son of Magnus, a Northman, made a descent on this coast; and as the forces of Hugh Lupus and the Earl of Shrewsbury stood on the shore to resist his landing, he chose two skilful archers, and placing them at the prow of his vessel, ordered them to aim at the Earl of Shrewsbury, who stood in full mail on the shore. An arrow struck the earl in the eye, and he fell dead, pierced through the brain, the open vizor of his helmet having shown the only vulnerable point to the archers. The Norman forces were afterwards expelled from Anglesea.

On the invasion of Wales by Edward I. Lleinog was occupied by him; and a tradition exists, that when the castle and walls of Beaumaris were erected, stones from Penmon quarry were passed from hand to hand along a distance of five miles, by a line of men extending from Penmon limestone quarries to Beaumaris. An old record is said to exist in a farm-house near this place, being an account of the number of men employed, and the wages paid to them. Between the castle of Lleinog and the mound on the shore which is called Little Lleinog, stands a house also bearing the same name. Some years back it bore traces of work of about the date of Edward I. with later work of the sixteenth and seventeenth centuries; but this house has been modernized, and most of these traces destroyed. The last historical notice of Lleinog Castle is that it was occupied by the Royalists during the great rebellion, but it appears to have had intermediate occupants, as on each face of the walls sloping buttresses have been built; but they are simply erected against, and not worked into, the older masonry: they have the look of late Gothic, but no very clear distinguishing feature. On the north wall also there is a small projection, similar to those in most mediæval castles, down which waste and rubbish were passed into the moat. I have dwelt more fully on this interesting little ruin, because it seems to be little known or noticed; but apart from this, nothing can be more picturesque than its situation. The high mound and moat are thickly covered with trees, and underwood and briers and ivy cover the walls, and choke up the small court-yard, so that it is difficult to distinguish the castle from the surrounding trees. Looking from the bastion, below me lay the quiet fields, sloping sunnily to the south, with the sweet new hay, just mown, and the hedges fragrant with dog-roses, honeysuckle, and a thousand nameless flowers, the broad expanse of blue water running to seaward, and narrowing to the right into the Menai Strait, the rich woods of Llanfaes, Baron-hill, and Penrhyn, and opposite the huge rocky wall of "Penmaen Mawr," crowned by the lines of a large British earthwork, and backed by a dark sea of mountains, ridge upon ridge, and at the extreme left the bold promontory of Ormshead, with the gentle undulating country of the Anglesea shore behind, altogether made up a picture which one might contemplate with pleasure for a long summer day.

I must reserve my remarks on Beaumaris for another paper, as well as those on the interesting priories of Llanfaes, Penmon, and Priestholme, and on the quarries of marble at Penmon.

E. W. C.

EARTH-WORKS.

IN a communication to the Secretary of the Royal Society, published in its "Proceedings" for March and April last (obtainable from Taylor and Francis, Red Lion-court, Fleet-street), Mr. W. J. Macquorn Rankine, C.E. and F.R.S. professor of civil engineering in the University of Glasgow, states that he has a paper in preparation on the subject of Earth-Works, as re-investigated by him in reference to his collegiate lectures, which he proposes to offer to the Royal Society when ready. Meanwhile he communicates to the society (who have published them in the number of their Transactions just specified) the two fundamental principles on which his researches are based, and which are as follow:—

I. *Principle of the Stability of Earth.*—At each point in a mass of earth the directions of greatest and least compressive stress are at right angles to each other; and the condition of stability is, that at each point the ratio of the difference of those stresses to their sum shall not exceed the sine of the angle of natural slope of the earth.

II. *Principle of the Transformation of Structures.*—Let a structure of a given uniform transverse section be stable under a system of forces represented by given lines in the plane of section:—Then will any other structure whose transverse section is a *projection by parallel lines* of that of the first structure upon any other plane, be stable under the system of forces represented by the projections, upon the new plane, of the lines representing the first system of forces.

An Earth-Work Table, we may also here note, has been published by Hodges and Smith, of Dublin, Mr. Joseph Louis Gallott, the author, for the calculation of quantities for all lengths, bases, and slopes, with explanatory instructions on the sheet itself as to its use.

THE WORCESTER EXHIBITION OF MODERN PAINTINGS.—This exhibition was opened on Saturday week, at the rooms of the local Society of Arts. The attendance, it seems, was by no means large, although the number of pictures this year is greater than has ever been got together before at Worcester, and even the quality improving.

DECAY AND PRESERVATION OF STONEWORK.

IN a notice recently of what is called Daines's patent for the preservation of stone, we said that the process appeared to be similar to, if not the same as, that patented by Barratt. This has brought a number of letters, including as well Mr. Barratt as the solicitor engaged in the prosecution of Daines's patent. While the latter gentleman terms it a misstatement, but says nothing to remove the impression founded on evidence before us,—Barratt thinks it has a tendency to give a value to a process to which he gives a very harsh name, and further asserts, that whatever is good in the process was obtained from him. He goes on to say, moreover;—"Let him amalgamate the sulphur and oil by the process of heat ever so well, the instant he applies that solution, the oil alone will penetrate the stone, the sulphur remaining on the surface in the form of a powder, which may be brushed off at will. Farther, so well will the sulphur combine with the oil, that suffer the solution to remain quiescent for a few hours, and you will get back the sulphur in the form of a precipitate, in its native purity."

Into the personal dispute we are not disposed to enter, but we may say of our own knowledge that not very long ago the only patent for preserving stonework in which Mr. Daines took any interest was Barratt's.

If either patentee have a process by which, at reasonable cost, stonework *in situ* may be stayed from decay and not injured in appearance, it is one of great value, and should have its truth confirmed.

Sir Charles Barry objects very strongly to the use which has been made of a certificate given by him as to the effect of the solution on parts of the stonework at the Houses of Parliament, applied about two years ago. This period of time he cannot undertake to say is a sufficient test of its complete success. Still he shows that it has stopped decay, and that no signs whatever of decomposition appear in any portion of the surface of the stone subjected to the process. This is a good groundwork on which to base the results of further experiments.

THE SMOKE QUESTION.

THE Prize Essay by Mr. Charles Wye Williams, C.E. to which the special gold medal of the Society of Arts was awarded, has been published by Weale, of High Holborn.* In this treatise on the Smoke Question, the subjects discussed, in accordance with the scheme of the Society of Arts, comprise a review of the various plans put forth as remedies, with an account of their success or failure, and their results as respects expense or economy; the legislative measures necessary, and the causes of failure in local Acts; and the best means of preventing the nuisance of smoke itself.

The author, in his introduction, remarks that he offers no new theory,—no new view of the nature of combustion, and that he draws no inference that is not in strict accordance with the highest chemical authorities, and with the results of successful experience. He very properly endeavours to reduce the question strictly to the nature of a chemical problem to be solved, and that solution he finds simply in the sufficient access of air—cold air—to the fuel during combustion.

"We see," he remarks, finally, "that the cause of the formation of smoke is, the absence of the proper supply of air to the combustion of the gas (the only combustible that it contains), *at the time when from its high temperature of incandescence* it was best fitted to receive it. So long then as due consideration to the providing for the admission of this supply of air to the furnace, at *the proper time* and in the proper quantity, be but little attended to; and that our practical engineers regard the question as of secondary importance, or almost with neglect; we cannot expect any reformation of the system of furnace details and arrangements."

In enumerating the patents in which the principle of introducing the air direct to the gases in the furnace by jets, films, or otherwise divided streams, forms the basis of these respective so-called inventions, the author remarks that it is "sufficient to know that the principle is daily gaining ground, and will shortly supersede the necessity for legislative interference. Thus this class of patentees, imitators

* Prize Essay, "On the Prevention of the Smoke Nuisance." By C. W. Williams, Associate Inst. C.E. Weale, 59, High Holborn. 1856.

though they be, are, nevertheless, working unquestionable benefit to the public, by adopting the right mode of introducing the air, and thus effecting combustion without the production of smoke. For the present, however, and until the subject is more generally understood and the principle adopted, *not by patentees, but by the makers and designers of boilers*, the improved practice must be effected at the expense of those who are compelled to have recourse to such agency, to avoid the penalties harshly and even unjustly imposed under the provisions of the existing law."

Although the author appears to handle his subject in general both ably and correctly, his anxiety to place it entirely and strictly on scientific, or chemical grounds, to the neglect of popular meaning and ideas, may be occasionally considered to lead him *unnecessarily* into an appearance of mistake, himself, which may betray some of his readers into actual error, both as to his real objects and as to the subject on which he treats. Thus, in pointing out that "blacks," or in fact soot, is a product or result of imperfect combustion, and that the gases and vapours which arise at first in adding coal to an ordinary fire, already burning, contain no such result, but consist of *combustibles not yet burnt* even into "blacks," he speaks always of these "blacks," while yet undeposited, as *being*, exclusively, "smoke," the combustible gases and vapours contradistinguished from it not being smoke at all, and this because, "according to the views of scientific men, the term smoke is applied to the volatile *produce* of the furnace *after* the process of flame or combustion has taken place, in contradistinction to *that* which issues direct from the coal, and which is called gas, or gaseous vapours." Now, whatever scientific men may mean by "smoke," what the public desire to get rid of as a nuisance in the atmosphere is not merely the "blacks," which Mr. Williams and the scientific men call "smoke," but of those very gases and vapours also which these gentlemen tell them are *not* "smoke," but which the public insist upon calling smoke, or at least upon comprehending under the term "smoke nuisance," as part and portion of that very contamination of the atmosphere which they desire and require to get rid of, and which, in fact, Mr. Williams, in accordance with that desire, shows how best, in his opinion, to get rid of. The combustible carburetted hydrogens, sulphur, and other substances which rise from fires immediately when fresh coals are put on, are far more noxious to human beings than even the "blacks," soot, or "smoke," with which every townsman's lungs are well known to be blackened for life; and if a whole people will insist upon calling that "smoke," scientific men and Mr. Williams ought just to submit to the infliction, correct their own definitions, and make the most of them. As it is, the best mode of burning completely these noxious gases and vapours, so as at same time to prevent the *production* of blacks, is in effect what this very able and valuable treatise precisely treats of.

"GROUND TO LET."

In an account of a bankrupt's final examination, recently published, it appears the petitioning creditor, who was the mortgagee of nearly all the bankrupt's property, had agreed to lease some land to the bankrupt, had induced him to expend 4,000*l.* of his own money on it, to get largely into debt in covering the land, and had proposed to the bankrupt to assign the whole of his property to him, and then to go through the Bankruptcy Court, promising him, after he should have obtained his certificate, to give him "1,000*l.* to begin again" with.

Without going into the truth of this matter, it would be a great benefit to the building trade if you would warn them against such machinations, as it is well known there are many who press upon poor and industrious builders, and serve them in the same way. The plan adopted by these worthies is to take a large plot of land, and then underlet it, not by advertising, but by getting an agent for building materials to "look up" customers at a premium of from 1*l.* to 3*l.* per plot. He meets with an industrious man who has been a few years in business, and has hitherto paid his way and is in tolerably good credit; and as a great secret to the victim, tells him a friend of his has some very eligible land to let, and that he (the agent) will introduce him; that he can get him a couple of houses to build at a fair price if he will take ground for six; and that his (the agent's) friend will advance from 75*l.* to 80*l.* per cent. on the buildings, which will be sufficient to finish them, as he (the agent) is in a position of getting his (the builder's) materials for him at a cheap market—will be happy to serve him in that or any other way, and will make no charge for his services; but if he (the builder) can come to terms with his friend, and can afford a few pounds out of so good a thing, he will "of course" take it. This is often paid on the signing of the agreement, the usual fee being 5*l.* from the poor builder, and 1*l.* per house from the landlord. The builder begins his operations, and if able to finish the first pair, and let them, the landlord advances on the leases, and so keeps on until all his (the builder's) money and credit are exhausted, and then advises him, through the agent or by himself, to go to the Bankruptcy Court, with a promise to make it all right when he has passed through the ordeal.

If all the builders who have passed through the court for the last ten or fifteen years dared to make it known, three-fourths of them would acknowledge the truth of these statements.

ONE OF THE VICTIMIZED.

MODE OF EFFECTING PARIS IMPROVEMENTS.

It will be recollected that, some time since, a committee of the Society of Arts was appointed to take up this subject, with a view specially to obtaining information as to the manner in which the improvements in the streets of Paris were effected. Information relative to the mode in which the legal proceedings connected with the compulsory taking possession of private property for such purposes, has been obtained, and is published in the Journal of the Society, for September 5,—No. 198.

The law of France is based on the following general considerations.

Undertakings for the public good involve private interests in a certain amount of sacrifice, though they share in the general profit and advantage arising from them, and regulations to meet this view are accordingly adopted. Some of these regulations relate to the mode in which such parties should share in the expenses and profits: others refer to compulsory taking of land; and again, some others refer to injuries affecting the property and rights of individuals, and to the compensation they may be entitled to. In certain cases, public works may be undertaken for the benefit of private property. They may likewise be useful and beneficial to a limited number of proprietors. The duty of the public administration* is, in both cases, to superintend the execution of such works, and to procure, or, at any rate, to enforce regularity in the working by all parties interested therein. The outlay is equitably divided among those who are to profit by such works, and in proportion to the benefit accruing to them therefrom.

MEDIÆVAL MONUMENTS AND BRASSES.

At a meeting of the Worcester Architectural Society and of the North Oxfordshire Society, held at Banbury, a few days ago, the Hon. F. Lygon, as mentioned last week, read a paper on "Mediæval Monuments, and particularly Brasses," in the course of which he said the earliest records of those departed in Christ were to be found in the Catacombs of Rome, and there, few were met with earlier than the eleventh century. In that and the two following centuries, stone coffins began to be used in memory of the noble and rich, which were fixed in the pavement of churches where the departed were resting. These slabs were sometimes incised with designs more or less elaborate, and to these incised slabs they might refer the origin of brasses. The slabs were gradually raised from the ground, at first perhaps a coped stone coffin with a cross sculptured thereon; and this variety of monument, with the addition first of panelled sides; then of niched sides with figures; next a light canopy, which, developed more and more, swelled into the full and perfect majesty of a mortuary chapel inclosing within it an altar tomb. It was to the first-mentioned variety of monument that he particularly called their attention. He claimed for our national taste the almost sole encouragement of monumental brasses,—a grateful and enduring method of preserving to posterity the features and appearance of our ancestors. Glasgow cathedral boasted of owning the only brass in Scotland: in Wales, there are few known to exist,—one from St. Thomas's chapel, St. David's, now the Chapter-house; one to Sir Hugh Johnys, at Swansea; one to Gwenllian Walsh, at Llandoughi; at Llanrwst, in Denbighshire; and some to the Gwydr family, now represented by Lord Willoughby D'Eresby; one at Dolwyddelan, in Carnarvonshire; one at Usk, in Monmouthshire; a wretched little thing at Haverfordwest; and one somewhere on the borders of Herefordshire. These are all that now exist in Wales, but at St. David's are the matrices of four others, one of which, on the altar tomb of Edmund, Earl of Richmond, must have been on a grand scale. In St. Patrick's, Dublin, there are three. There were some at Bruges, one at Amiens, a few at Aix-la-Chapelle, some in Meissen cathedral, one at Seville, one at Constance, which is believed to have been sent from this country; there are a few at Funchal, Madeira, some in Denmark, and a very fine rubbing from a magnificent brass at Lubeck exists in the collection of the Oxfordshire Society. The earliest kind of brass was known by the name of "Limoges Enamel," and which was used half a century before 1200,—the earliest date recorded of any brass properly so called. The art of enamelling metals was introduced into Europe through Byzantium and Venice, and its principal manufacture settled at Limoges, whence the above name. In this country it was first used to adorn the tomb of Walter de Merton, founder of Merton College, and Bishop of Rochester. These Limoges enamels led the way to the use of incised slabs of brass let into stone, and these, ecclesiologists have agreed to call "brasses." The earliest brass of which the design was known, was that of Philip and John, sons of Louis VIII. of France, who reigned from 1223 to 1226. The earliest brass we read of in England was that of Simon de Beauchamp, Earl of Bedford, who died 1208, and was buried in St. Paul's, Bedford. There were also records of brasses to Jocelyn, Bishop of Wells, who died 1242; Bingham, Bishop of Sarum, 1247; Richard de Berkyns, Abbot of Westminster, 1246; but the earliest brass extant in England was that of Sir John d'Abernon, 1277, in Stoke d'Abernon church, in Surrey,—the only whole-length military example, of the reign of Edward I. which was not in cross-legged attitude, and the only effigy that remains of a knight armed with the knightly lance.

* "*Administration Publique*" applies to public authorities of all kinds, whether municipal or governmental.

BATHS AND LIBRARY FOR THE CITY OF LONDON.

We have so long heard of public baths and libraries for the City, that the idea of their ever being really erected, seems most improbable, although we are told by the newspapers, and upon every possible opportunity of lauding our generosity, that every want is cared for in this country. (?) The ninth of November will soon be here again, when a lord mayor might possibly be elected who will forsake the beaten tracks of his predecessors, and call a meeting to erect baths and wash-houses, and a library, the expenses to be defrayed partly by subscription, and a rate to be levied upon the whole of the City, the baths, &c. being erected in as central a position as can be obtained, so as to be within walking distance from any point, standing, as the city does, only on a square mile of land. The expense would then fall lightly upon all, as there are so many rich owners and occupiers, either living or trading within its boundaries, who would doubtless subscribe liberally, leaving but a comparatively small sum to be collected, which could easily be raised by a union of all the parishes within the City; 20,000*l.* or 25,000*l.* being a mere bagatelle to collect for so useful an object from the merchant princes of England. There is plenty of work for the builder to do in every part of the City, which requires a better method of improvement than the present dilatory system, the welfare of the present generation being of as much consideration as any other. There is an alderman, once in the trade, who, should he live to fill the office of mayor, will, I trust, prove a "brick" in making improvements.

A. Z.

GLASGOW CATHEDRAL.

A MEETING was held in Glasgow, on Thursday in last week, as to finishing the renovation of this structure, the only one in Scotland which escaped destruction at the Reformation. Till about fifteen years ago, it remained almost entirely neglected; but the Commissioners of Woods and Forests (to whom the cathedral belongs), urged by the citizens, and assisted by the corporation of Glasgow, have since then restored the fabric, at a cost of about 17,000*l.* of which the city have contributed nearly 3,000*l.* The restoration was coming to a close, and it was deemed incomplete unless the windows were filled with stained glass in the highest style of art. A subscription was accordingly organised on the plan that each contributor should fill in one window, and has been very successful. The four principal windows, which will cost from 800*l.* to 1,000*l.* each, are to be filled in respectively by the Government, the Trades House of Glasgow, the Duke of Hamilton, and the Messrs. Baird of Gartsherrie, the wealthy ironmasters. There are upwards of forty smaller windows, the filling in of which will cost about 120*l.* each, and these have been taken up by the Duke of Montrose, the Duke of Buccleuch, the Earl of Eglintoun, the Earl of Glasgow, Lord Douglas, Lord Belhaven, the great majority falling to the share of private citizens of Glasgow. The meeting of Thursday was the first meeting of the subscribers. The Lord Provost was in the chair. The Duke of Hamilton moved the first resolution,—"That it is desirable to complete the restoration of the cathedral of Glasgow by filling the

whole of the windows with painted glass. The Duke of Montrose moved the second—"That it is desirable that the subscribers to this interesting and important undertaking should unite in promoting the adoption of a harmonious plan of decoration, suitable to the character of the building, and worthy of the purity and dignity of its architecture." Mr. Stirling, of Keir, M.P. moved the third resolution, to appoint a committee to procure information as to the best means of carrying the foregoing resolutions into effect, and to communicate the result of their inquiries to the Government, and to the subscribers. The resolutions were all unanimously adopted. The Lord Provost afterwards complained, that in the newspapers of late, his name had been freely used in connection with this matter, totally without his sanction. He had been applied to by great numbers of glass-stainers both in this country and on the continent, and the universal answer he returned was, that nothing could be done till a committee was appointed to investigate and report on the whole subject.

THE ARCHITECTURAL ASSOCIATION.

IT would be very desirable if our committee of the Architectural Association would shortly inform us through your columns of their views respecting the proposed amalgamation with the Institute of British Architects, as we should be given time to reflect over it much better than by a sudden discussion on its merits at a general meeting, when we could have had no time to study it. Considering the very great service which it will prove to all the junior members, and, indeed, to architectural art in general in the metropolis, I certainly think that sufficient time ought to be given to the members to consider the means proposed to obtain it. We shall no longer have our energies cramped by the idea that the Association has any pecuniary difficulties to trouble it, while the fine library to which the junior members will obtain access, will not only prove of incalculable benefit to them, but induce vast numbers to join our body, who, by reason of the want of this, have held aloof. As a junior member of the Architectural Association, I do earnestly trust that our committee will not, from any desire of office, throw difficulties in the way of what they must see to be so eminently for the general benefit. At the same time there can be no doubt that the junction would be very much facilitated if the Royal Institute of British Architects would give some idea of the terms they would accept, instead of leaving the Association to propose what possibly might be immediately rejected. We must not, however, shut our eyes to the fact, that if the Institute really wish to make the Association part of itself, and at the same time retain and improve its practical use, it must lay down towards it a liberal policy in dealing with it, so as to retain its vigour unimpaired. If this plan is adopted, nothing but blundering on the part of the leading body of the Architectural Association can prevent this most desirable result, and doing otherwise would, in a comparatively short time, produce the ruin of the society.—J. T. IRVINE.

RECENT AMERICAN PATENTS.

WE glean the following from the lists of recent United States patents in the *Journal of the Franklin Institute*, of Pennsylvania:—

For an Improvement in Cast-iron Pavements: Asa P. Robinson, City of New York.—Claim: "The cylindrical form with the tangential flat surfaces raised upon its circumference, for contact between the blocks. Also, the peculiar manner of keying the blocks together, and of keeping the blocks to the rails, to prevent vertical motion, and to admit of any one block or rail, or any number of blocks or rails, being moved without disturbing others not required to be moved, by means of the triangular formed spaces, the rebates and the keys, or by means of the projecting surfaces of the blocks, and the flanches or lugs on the rails and the key."

For an Improvement in Bridges: George W. O. Huggens, assignor to self and Charles Bender and D. F. Tiedman, St. Louis, Missouri.—Claim: "The combination of and between those mechanical agencies and technical parts which constitute the mode to prevent vibration in a bridge by using the compensated effect of compression only. Also, the combination of and between the mode in which the arches are arranged, and across each other, and the mode in which they are connected with the flow; and, finally, the mode in which they receive their leverage, the mechanical effect of which said combination is to originate the tendencies in the upper and lower arches to curve apart or asunder. Also, the combination of and between the mode in which the arches cross each other, and the mode in which they are connected with the floor; and the mode finally, in which they are constructed, in regard to amount of material, the mechanical effect of which said combination is to originate the equal intensity of the said tendencies. Also, the employment in the bridge construction of the arches, as a practical substitute for upper cords, and generally, for all such parts in bridges which serve to uphold the floor. Also, the special mode in which the arches are connected with the floor."

For an Improvement in Repairing Railroad Bars: James M'Lellan, Detroit, Michigan.—Claim: "Placing the rail or bar to be heated within a cooler, which is fitted within the furnace, and supplied with water from a reservoir at the outer side of the furnace—the cooler being so formed or arranged, as to encompass or be in contact with the parts of the rail bar not designed to be heated."

For an Improved Machine for Bending Wood: Edward J. Updegraff, York, Pennsylvania.—Claim: "The peculiar method of operating the form upon which the wood is bent, by bringing it hard down upon the platform by means of the screws, and giving it motion by means of the platform beneath it (whether endless chain or otherwise), separately and in connection with the arrangement of the wheels, the screw, the spring, the frame, and the slide."

For an Improved Mortising Machine: Edward Joslin, Keene, New Hampshire.—Claim: "Combining or arranging with the tri-armed sectional lever, and the post or frame of the tool carriage, two wooden springs and a connecting rod, so that one spring may be separated by draft, and the other by pressure, when said lever is placed downward."

For an Improvement in adjusting the Angles in Machines for Sawing Marble Obelisks: Lebbius Brookes, Great Falls, New Hampshire.—Claim: "The peculiar combination of mechanism, by which each of the saw frames is moved relatively to the other, and so as to dispose its saws either in or out of parallelism with those of the other, as circumstances may require—the same consisting of the upright rod, the bell crank rod, their slides, staple guides—the same being applied to the main frame and the saw frame. Also, combining with each of the bell-crank shafts and the rod, and each of the saw frames, and its suspension-rod, the movable frame, whereby said suspension-rods are adjusted or moved, at their lower ends and in the same directions."

For an Improvement in Machines for Sawing Marble in Obelisk Form: J. E. Haviland, Galveston, Texas. — Claim: "Adjusting the saw-frame, F, more or less angularly or obliquely with the saw-frame D, by means of the adjustable or sliding plates, which are fitted over curved surfaces on the cross pieces of the frame."

For an Improvement in Machines for Sawing Marble in Obelisk Form: James Miller, Buffalo, New York.—Claim: The combination of the crank shaft, mounted above the saw frame; the loosely-jointed pitman, and the rocking bars, vibrating on fulcra upon the adjustable frames which guide the saws."

For an Improved Planing Machine: Cyrus B. Morse, Rhinebeck, New York.—Claim: "1. The combination of the following mechanical elements: planing cylinders, line plate, beds or rests, and weighted levers, when arranged and combined for reducing a board to an equal thickness, without bending the same.—2. Making the edge of the bed a cutting instrument, and giving said bed or rest a longitudinal movement, simultaneous with the swinging back or forward of the cylinder, so that the edges of the cutters on the cylinder will preserve the same relative position, with respect to the cutting edge of the bed, in all positions which the said cylinder may occupy.—3. Giving the line-plate a tilting motion about its own axis, to present its flat surface to the board under all circumstances.—4. Maintaining the pressure on the middle of the board, irrespective of the portion of the cutters to which the board is submitted, by means of the weighted levers."

For an Improved File-Cutting Machine: James L. Norton, Alum Bank, Penna.—Claim: "1. Hanging the worm-wheel shaft in moveable bearings, so the worm may be disengaged from the feeding rack, without stopping its motion to do so, for the purpose of allowing the carriage to run back and be set for the next series of nicks. Also, in combination with the moveable shaft, the adjustable projection and levers, for first holding and then disengaging the shaft, to admit of its swinging. Also, in combination with the sliding carriages, the projection and adjustable former, for keeping the blank at a uniform distance from the nicking tool, for the purpose of equalizing the force of the blow, notwithstanding the taper of the blank. Also, the use of the spaces for regulating the force of the spring upon the nicking tool."

For an Improvement in Machines for Sawing Marble Kerfs of Varying Angles: Samuel Nickelson, Pulaski, Tennessee. — Claim: "The adjustable or sliding bars, when said bars are curved or bent, so as to form saw-frame guides, in combination with the pivoted pitmans and eccentrics on the shafts, whereby the saw frames and the devices for drawing them ar all attached to and move with the bars; thereby allowing the saws to be adjusted more or less angularly with each, and at required distances apart, with the greatest facility."

For an Improvement in Scaffolding: John M. Dearborn, Boston, Mass.—Claim: "This improvement in the construction of moveable scaffolds, which consists, first, in constructing the upright standards of two planks or boards, leaving a space between them, in which space the ledgers can be moved up and down, and secured in any desired positions. Also, constructing the upright standards with tenons on the top, which fit into the bottom space, strengthened by an iron sleeve between the planks of the upright standards of the next upper section, whereby I am enabled to extend the stageing vertically."

For an Improved Mode of Constructing Portable Houses: Daniel Fitzgerald, City of New York.—Claim: "1. The constructing houses of staves, held together by hoops.—2. Combining the staves in segments or parts of the periphery, some of which shall combine the doors and windows, to facilitate the putting up and taking down.—3. Constructing the floors in segments.—4. Sustaining the thrust of the roof by a hoop, which also confines the staves."

For an Improvement in Preparing Artificial Stone: Robert Neisch, City of New York.—Claim: "The preparation of artificial stone, by treating plaster of Paris, previously calcined, together with sulphuric acid, with solutions of alum and carbonate of ammonia."

BUILDERS' BENEVOLENT INSTITUTION.

A MEETING of the Committee and Directors of this useful charity was held at the office of the institution, Southampton-street, Bloomsbury-square, for the purpose of taking into consideration the propriety of having a fresh election of pensioners, and upon other business. Mr. T. Cozens presided.

The chairman having stated the object for which they had been called together, said that their new President, Mr. Alderman Lawrance, would preside at the ninth anniversary of the foundation of this institution, which was fixed to take place at the London Tavern, on the 29th of October. He hoped that the trade in particular would well support Mr. Lawrance, and respond liberally to the appeal on the part of the charity, so as to enable the committee to have it in their power, as on the last occasion, to elect a larger number of candidates.

Mr. Thomas Scantelbury proposed, and Mr. J. Williams seconded, a resolution to the effect that an election of pensioners take place on Wednesday, the 27th of November.

Mr. G. Bird trusted that the builders generally would support their new president at the following anniversary festival, and by that means raise a sufficient fund to take in the whole of the candidates. He hoped that all who could would become stewards; for if they did that, and each one used his best exertions, he felt confident that they could raise money enough to relieve some of the poignant distress that was now existing.

Mr. G. Grayson always heard with pleasure of another election of candidates, and trusted that gentlemen would not relax in their exertions, but would endeavour to make this institution one of the first in the kingdom.

Mr. Joseph Bird said it behoved all those who were prosperous to make provision for the comfort and happiness of their less fortunate brethren. On the last occasion, the result of the dinner was so satisfactory, that they were enabled to elect six candidates instead of two, and he hoped that the same gratifying result would attend the advocacy of their new President at the forthcoming anniversary festival.

The Chairman then put the motion, which was carried *nem. con.*; and after the transaction of some other business, the meeting separated.

Notices of Books.

Monumental Memorials. Part I. By J. W. HALLAM, Architect. London: Masters. 1856.

HERE we have thirteen designs for headstones and four for mural monuments, drawn with a free hand and some affectation. A few of the headstones show an admixture of iron and stone, an uncertain union, unless very cleverly performed. The author, Mr. Hallam, in his brief introduction, makes a suggestion. He says,—

"In the case of a new church, where it is desired to place a memorial, the architect will be the proper person to design a monument in accordance with the style of the building, and if possible, to arrange for it to form part of the design, so as not to mar but add

to the effect. Suppose, for instance, that the walls of the church are of brick, uniform in colour, not plastered: a good effect might be obtained at a trifling cost by arranging in the bond of the brick-work for bricks of a different colour, to form an ornamental cross, inserting a block of stone at the foot, on which to carve the inscription, the letters of which should be painted and gilded. Such an arrangement must of course be considered before the wall is built, so as not to interfere with any objects which may surround it."

VARIORUM.

Murray's "Handbook for Wilts, Dorset, and Somerset," alluded to last week, is a branch of so large a family with a good reputation, that it needs no praise from us. It will be found of the greatest value by tourists, and, moreover, tells of such an interesting part of the country, that it is a readable book for those who stay at home. In a work of this sort errors will creep in; and we may note for the next edition, that the north door of Bridgwater Church is of the Geometrical period, not Norman; that Yeovil Church is Perpendicular, not Decorated; and that the paintings above the altar at St. Mary Redcliffe, Bristol, have been removed some time.——Some may thank us for saying that *The Ecclesiologist* for August contains a letter from M. Lassus, the eminent French architect, in defence of the motto adopted by him in the Lille competition,—"Eclecticism is the Affliction of Art."——Carlyle would make our architecture very lively. In Mr. Waldo Emerson's "English Traits," just now published by Routledge, a very agreeable set of sketches, showing much but not quite enough knowledge of us, the philosophic American describes a visit to Stonehenge with the writer we have named. Recording some of Carlyle's observations, Emerson says, "In these days, he thought, it would become an architect to consult only the grim necessity, and say, 'I can build you a coffin for such dead persons as you are, and for such dead purposes as you have, but you shall have no ornament!'"—on what reasonable grounds it would seem hard to say.

Miscellanea.

PURE WATER AND HEALTH.—At the late meeting of the British Association, Dr. Lankester exhibited some water taken from a well at Cirencester. The water from this well had been the cause of illness in a family which had partaken of it. Although at first clear, after standing a little time it exhibited the mycelium of a fungus. This water had been sent to him for examination, and he had been struck with the resemblance of the fungus to that of one which he had found in the well-water of Broad-street, Golden-square, the drinking of which had been undoubtedly connected with the outbreak of cholera in that district in 1854. This well had subsequently been found to have received into it the contents of house-drainage. He had now discovered that the well at Cirencester had also received into it a certain amount of house-drainings. He related other cases in which fungi appeared in contaminated water. None of the waters mentioned exhibited any injurious constituents that could be discovered by chemical analysis. Before chemistry could detect them they had lost their injurious properties, and the microscope alone could realize their presence.

GAS.—The Cardiff Gas Company have declared their usual dividend of eight per cent. The company are rapidly extending their works on all sides.——The directors of the Montrose Gas Company have resolved to reduce the price of their gas from May last to 5s. 6d. per 1,000 feet, being the lowest price at which this article is supplied within any of the neighbouring counties of Forfar, Aberdeen, or Perth, excepting the town of Dundee, where the price is somewhat lower.——A company has been recently started, under the law of limited liability, called the British Portable Gas-Apparatus Company. The capital is 40,000*l.* divided into 4,000 shares of 10*l.* each. The objects of the company, says the *Morning Herald*, are to bring into general use a new and improved portable gas-apparatus, patented by Mr. Abram Longbottom, a civil engineer, and with whom a satisfactory arrangement has been made for the transfer of the rights taken under his patent. It is stated that the apparatus for producing the gas is one of a most simple construction, and we find that a silver medal has been awarded for the invention by the American Institute. By this plan gas, it is said, can be produced in private mansions, manufactories, hospitals, and other isolated buildings, at a trifling cost.

AMALGAMATED SOCIETY OF ENGINEERS.—The members of the Manchester first branch of the above society celebrated their anniversary dinner on the 30th of August, at the house of Mr. Campbell, Land o'Cakes, Great Ancoats, when upwards of seventy sat down to dinner. The district secretary stated that the society paid last year nearly 20,000*l.* to its members for want of employment, sickness, superannuation, funerals, and accidents, thereby showing benefits which, he said, no insurance company in the known world could offer, at the same amount of subscription.

AUSTRALIAN COPPER.—The mercantile report of Messrs. Macdermott, Dutton, and Co. of Adelaide, states that at the Burra Burra mine, in the six months ending 31st March, 1856, 6,450 tons, estimated to contain an average of twenty-seven per cent. of copper, were raised. The cost of produc ton is estimated at about 8*l.* per ton. This mine commenced working in April, 1845, with an original capital of 12,010*l.* in 5*l.* shares. Since that period there have been raised 109,005 tons of copper ore, which produced 2,000,000*l.*; and twenty-six dividends, amounting to 418,880*l.* or 170*l.* for every original 5*l.* share has been already paid to the shareholders, and in addition to the latter, there is an undivided profit of 208,854*l.*; making the gross profit in ten and a half years 627,734*l.* A vastly increased quantity of copper might be raised, were it not for labour being withdrawn to the Victoria goldfields. The entire staff of the Burra Company comprises only 688 persons. The copper and copper ore exported from the colony during the last season were valued at 500,000*l.*

PROJECTING CORNICES IN STREETS.—I beg to be allowed to call attention to what appears to me to be not only a piece of useless expense, but offensive to good taste—in city building. I allude to the enormous cornices which it appears to be the present fashion to adorn warehouses &c. with. In wide streets, where the parapet can be seen above the cornice, it may be all very well; but what necessity can there be so to crown a warehouse in a narrow street? If one of the elements of beauty consists in utility, then it is surely wrong, and as it must tend to darken the narrow street, and has been attended with considerable danger, in more than one instance, it cannot be right. You will, no doubt, remember the sad accident in Wood-street, Cheapside, that occurred during the erection of a warehouse, when some 20 or 30 feet of the cornice fell, smashing the scaffolding, and killing either a man or a horse. In such a thoroughfare it was fortunate more lives were not lost.—R. S. T.

THE MANCHESTER EXHIBITION BUILDING.—The length of the building is now clearly shown, the terminal walls, front and back, being some 25 feet above ground. There is an immense quantity of building material spread upon the site, at the points where it will be wanted, consisting of iron, wood, and bricks. Nearly 1,000,000 of bricks have already been placed. The timber and bricks are supplied by Messrs. Bennet, of Ardwick. As giving some idea of the quantity of wood required, the following items may be mentioned: 8,400 joists, 12 feet long; 2,000 ditto, 8 feet long; 140,800 boards, 12 feet long, 1¼ inches thick; 265,600 ditto, 12 feet long, ¾ of an inch thick; 25,000 scantlings, 12 feet long, 4 inches by 3 inches; and 10,000 ditto, 3 inches by 3 inches. This gives a total of 451,200 pieces; yet the only woodwork visible will be the floors.

HISTORY OF THE STEAM-ENGINE.—I am led to send the following extract from the fortieth chapter of Gibbons's "Decline and Fall," &c. for insertion in the *Builder*, by reading a history which passes from the days of Hero to the twelfth century of our era, and which affirms that in the interval "history is a blank" as to any notices of the "developement of the power of steam."—E. C. S.

"In a trifling dispute relative to the walls or windows of their contiguous houses, he" (Anthemius, architect of the Emperor Justinian) "had been vanquished by the eloquence of his neighbour Zeno; but the orator was defeated in his turn by the master of mechanics, whose malicious though harmless stratagems are darkly represented by the ignorance of Agathias. In a lower room Anthemius arranged several vessels or cauldrons of water, each of them covered by the wide bottom of a leathern tube, which rose to a narrow top, and was artificially conveyed among the joists and rafters of the adjacent building. A fire was kindled beneath the cauldron: the steam of the boiling water ascended through the tubes: the house was shaken by the efforts of imprisoned air, and its trembling inhabitants might wonder that the city was unconscious of the earthquake which they had felt..... The orator declared in tragic style to the senate that a mere mortal must yield to the power of an antagonist who shook the earth with the trident of Neptune," &c.

*** The anecdote is well known, but may interest some of our younger readers.

INTELLIGENCE FROM JERUSALEM.—The building which the Austrian Government erects in this ancient city for the reception of 100 pilgrims and voyagers, has been of late commenced, under the superintendence of M. Endlicher, the Vienna architect. When excavating the foundation the workmen arrived at some large stone-slabs, most probably belonging to the ante-Roman (Hebrew) period. Farther on a subterraneous church (*crypt*) was discovered, which served, probably, the first Christians for a religious hiding-place. It is entirely built of stone. M. Endlicher and some other persons then entered a series of caves, through which they passed for some considerable time, but have had no leisure to examine them yet. Still, all these discoveries will successively clear up the topography of ancient Jerusalem; the more so, as the present Pacha is a man willing to give encouragement to every such enterprise. School-houses, hospitals, and even places of public resort, casinos, &c. are constantly springing up in this town. A railroad is also spoken of; at any rate, a good Macadamized road would much increase the number of European visitors.

COLCHESTER BURIAL-BOARD.—The Board, in a report from the Building Committee just now published, accuse the architect whose design was selected, of reducing the design for execution, so as to bring it within the desired cost. They say:—"The contract entered into between the Board and Messrs. Colls and Co. provided for an outlay of 1,865*l.* for chapels, lodge, receptacle-house, and entrance-gates. To this was to be added the cost of erecting the eastern boundary wall, which would raise the expense of the work to be performed by the contractor to about 2,200*l.* Soon after the commencement of the works, it was discovered that Messrs. —— and ——, the architects, had so reduced and altered the working drawings that they very inadequately represented the drawings to which the premium had been awarded. This defalcation on the part of the architects rendered it necessary to make many important additions to their mutilated plans, involving, of course, a heavy outlay in the shape of extras."

THE DUPLICATE RETORT STEAM-BOILER.—Recent explosions have led Messrs. Dunn and Co. to bring into notice their Patent Duplicate Retort Steam-boiler. The main advantages that have been sought by the patentees are to render an explosion more difficult, or if it does take place, to diminish the mischievous effects, by giving it only a partial character. These results are proposed to be attained by the substitution for the present steam-boiler, of a number of cylinders or retorts about 10 feet long, and 19 inches diameter, composed of ½-inch best wrought-iron Staffordshire plates, with strong cast-iron ends, forming the pipe junctions. These cylinders or retorts are placed in parallel lines, and the water supply-pipe is connected with one end of each by a short pipe or neck, through which the water is pumped into all the cylinders, which are generally kept about half full. The water is converted into steam in the cylinders, and the steam passes from the cylinders (on the opposite side from whence the water supply is obtained) through a tube into the steam-chest, and from thence the steam becomes a motive power, and its action is intelligently directed. The fire plays underneath and over the cylinders in a sinuous manner. One great economical advantage is claimed; that in the event of explosion only one cylinder may be affected, and not, as in ordinary cases, the entire boiler.

RAILWAY TRAFFIC.—The traffic returns of railways in the United Kingdom, for the week ending August 30, amounted to 478,999*l.*; and for the corresponding week of 1855, to 461,732*l.*; showing an increase of 17,267*l.* The gross receipt of the eight railways having their termini in the metropolis amounted, for the week ending as above, to 209,737*l.*; and for the corresponding week of last year to 202,100*l.*; showing an increase of 7,637*l.* The increase on the Eastern Counties Railway amounted to 397*l.*; on the Great Northern to 368*l.*; on the Great Western to 2,246*l.*; on the London and North-Western to 2,958*l.*; on the London and Blackwall to 94*l.*; on the London, Brighton, and South Coast, to 142*l.*; on the London and South-Western to 1,651*l.*: total, 7,856*l.* But from this must be deducted 219*l.*—the decrease on the South-Eastern—leaving the increase, as above, 7,637*l.*

FALL OF A CHIMNEY.—The colossal chimney attached to the vitriol works of Mr. Jones, at Victoria-quay, facing the Royal Barracks, Dublin, suddenly fell on Thursday week, levelling with their foundations several high walls in its vicinity, and breaking down the greater portion of a long slated shed, fortunately, however, without doing the slightest personal injury. This chimney, which had long been known as the largest as well as the loftiest in Dublin, was built twenty-four years since: its dimensions were—height, 150 feet; circumference, from 60 to 70 feet; and internal diameter, 24 feet.

THE WESTMINSTER CLOCK BELL.—At the time of our former notice of this bell it had not been weighed. The weight is now stated to be 15 tons 18 cwt. 1 qr. 22 lbs. or 16 tons within a small fraction. The thickness is found to be rather more than was stated in our former notice—viz. 9⅜ inches at the soundbow, where the hammer strikes, and 8½ in the upper part, being very nearly 1-12th and 1-36th respectively of the diameter at the mouth, 9 feet 5½ inches. The great bell had to be sent down from Norton to West Hartlepool by railway on Sunday, being too wide for any train meeting it to pass. The composition is 7 of tin to 22 of copper, melted twice over, as in speculum metal, to secure a perfect alloy. The metal is nearly as hard as spring steel, and much harder than is usual in modern bells, in which the proportion of tin is less than in the best old ones. When the bell arrives at Westminster, it is to be hung for trial at the foot of the clock tower, with a clapper of half-a-ton, to be pulled by five or six men. It is finally to be hung in the open part of the spire of the tower, which was made for the purpose, in order that the sound may issue without obstruction.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—A meeting of the members of this society was held on Wednesday in last week, at Yarmouth, and excursions were made into the neighbouring parishes to inspect the churches, and to Caister Castle. The Mayor of Yarmouth (Mr. Palmer, a good antiquary), received the members at the Town Hall, and delivered an address on the robes and regalia of the corporation. The party then visited Caister Castle, and the churches at Mautby, Filby, Burgh, Rollesby, Martham, and Ormesby. At Caister Mr. Harrod read a paper descriptive of the place, with pictorial representations and plans. On the return of the party to Yarmouth, about fifty went to the Assembly-room at the Town-hall, where a cold collation was provided, the Mayor in the chair.

THE NEW PARK OPENED AT BIRMINGHAM.—The Adderley-park, just opened, is in the Adderley-road, about two miles from the centre of the town, and within an easy distance of the Saltley station, on the Midland Railway. It covers an area of ten acres, lying between St. Saviour's church and the extensive works of Brown, Marshall, and Company. The grounds are arranged, a gravel walk traversing the circuit of the park, with a row of lime-trees planted along the sides. The entrance to the park will be through a lodge, to which is attached a large building, designed by Mr. Street, of Oxford, in which apartments will be appropriated to the purposes of news and refreshment rooms, a library, and a general museum. The building had been erected by Mr. Adderley, but the expense, amounting to more than 1,000*l.* will now be defrayed out of the proceeds of the recent bazaar in the Town-hall. The building is nearly completed.

LONDON SLAVES.—Mr. Lilwall, of the Early Closing Association, has addressed a letter to us on the frightful drudgery to which assistant chemists are condemned, and makes out a strong case for reform. "Eight o'clock ought, by all means, to be the hour of closing, as the time thus rescued from the shop would be available for some really useful purpose: it would, for instance, afford opportunity to members of the business to attend scientific lectures, and to prosecute such other studies as are essential to the completion of their general, and more particularly their professional, education. If, however, eight o'clock be considered too great a leap to make at once, nine may be fixed upon by way of commencement, but, whether eight or nine be the hour, it will be a mere farce if it amounts to no more than merely putting up the shutters and leaving the door half open—the present too-general custom. Let families and individuals make it a point of conscience, in every possible case, to abstain from evening shopping. Let them, also, do their utmost to discountenance the keeping the druggists' shops unshuttered on Sundays, which is now done under the cloak of an alleged but *un*real necessity."

ELECTRO-TELEGRAPHIC PROGRESS.—A United States vessel, the *Arctic*, lately reached Cork after fathoming the bottom of the Atlantic ocean all the way across from Newfoundland, along "the telegraphic plateau," as it has been called. The result is reported to be perfectly satisfactory. Soundings were taken to a depth of 27,000 fathoms, but for some fifty or sixty miles from St. John's, Newfoundland, and again on this side, there is a bank varying from 25 to 120 fathoms, and between these a plateau, nearly level, with soft bottom composed of microscopic shells. The soundings were taken by the aid of steam power. The captain of the *Arctic* undertakes to lay down the projected cable at the rate of ten miles an hour right across. The American company who are to provide the cable have already about 1,700 miles at work, connecting Newfoundland with the United States lines, and it is expected that in a short time the 1,640 miles of the Atlantic cable will be a realized fact.

SANITARY RETROGRESSION.—The Dudley Board of Health have dismissed their officer of health, Mr. Houghton; reduced the salary of their inspector of nuisances from 120*l.* to 60*l.*; and that of their surveyor, Mr. Bateman, from 150*l.* to 100*l.*

MASONS' STRIKE AT NEWCASTLE-UPON-TYNE.—This unfortunate dispute between masters and workmen has now continued for some time, and seems as far off adjustment as ever. The men lately employed in St. Nicholas'-square have issued an address, in which they charge Mr. Robson, the contractor, with having violated terms he had previously consented to abide by. The terms are said to have been 4s. 4d. for five days in the week, and 2s. 4d. for the Saturday, on which day they were to have a half-holiday. The progress of the work meantime has not been wholly stopped.

PRESERVATION OF WOOD.—A method of charging the sap-tubes of timber with preserving fluids has been adopted at Paris by Dr. Boucherie, and the prepared timber applied as telegraph-posts, railway-sleepers, &c. A cross cut is made on the prostrate timber to nearly 9-10ths of its diameter: a wedge is then inserted, and a cord is wound round on the cut surface, leaving a shallow chamber in the centre, which is then closed by withdrawing the wedge. A tube is then inserted through an augur-hole into this chamber, and to this tube is attached an elastic connecting-tube from a reservoir placed some 20 or 30 feet above the level in which the wood lies, and a stream of the saturating fluid with this pressure passes into the chamber, presses on the sap in the sap tubes, expels it at each end of the tree, and itself supplies its place. The fluid used is a solution of sulphate of copper in water, in the proportion of 10 per cent. and a chemical test that ascertains the presence of the copper solution is applied at each end of the tree from which the sap exudes, by which the operator ascertains when the process is perfected. Several French commissions have investigated both the process and its effects, and have, it is said, reported favourably of its results, showing that the soft Scotch fir, green from the wood, may in a few days be cheaply rendered capable of resisting damp and weather more effectually than heart of oak in its unprepared state.

SMOKED BRICKS.—It is a singular fact, that smoke stains will show through almost any thickness of plaster. I once had a stack of chimneys blown down by a hurricane, in rebuilding which a portion of the old material was used, and a few bricks, japanned with the smoke of half a century, accidentally reversed. This was rough cast and whitewashed, in country-cottage fashion (I speak particularly of Ireland), but greatly to my annoyance, and somewhat to my surprise, the discolouration worked its way through all, as also through several successive layers of rough cast, and coats of whitewash. Lime-mortar had no other effect than that of increasing the size of the chimney-stack, which in a little time had outgrown all resemblance to its fellow stack, and its former self. Having endured this smoke nuisance for a season, and employed a stonemason, who, being a sort of handy man of the neighbourhood, had engrafted on his own solid stock, the kindred crafts of bricklayer and plasterer, to pull down and rebuild, instead of this he merely cleared away the rough cast, and rubbed the discoloured bricks over two or three times, allowing them to dry each time with some fresh cow-shed dung, diluted to the consistence of strong whitewash, which had the desired effect. When dry, it is perfectly free from smell, but whether it is retentive enough to hold paper I cannot say.—A READER.

IMPROVEMENTS AT EDINBURGH.—The population of the Scottish metropolis in 1841 was 166,450: it is now 210,000. This increase of population has given an impulse to the building trade, so long stagnate after the over speculation of 1825. Within the last five years there have been built Clarendon-crescent, Eaton-terrace, and Cambridge-terrace, at the Dean-bridge, and in the same vicinity Randolph-crescent, Randolph-place, and Great Stuart-street have been completed. The large district to the south, comprising the Grange, Whitehouse Estate, Greenhill, Morningside, and Merchiston, extending over a space of one square mile, has been intersected by numerous streets, and almost covered with houses, which, in five years more, will have become a southern city of villas. Numbers of houses in the same style have been built, and are building, on the north side of the city at Trinity and Granton. At present there are thirteen churches building, or about to be built—namely, the Baptist Church, in Dublin-street; English Episcopal Chapel, St. Vincent-street; St. Andrew's Episcopal Chapel, south back of Canongate; Free Tollbooth Church, St. Andrew's-square; Free Bucclench Church, Cross-causeway; Free St. Mary's, Broughton-street; Independent Chapel, George IV.'s bridge; United Presbyterian Church, South Clerk-street; St. Peter's Episcopal Chapel, South Clerk-street; New Free Church Assembly Hall, Lawnmarket; Grayfriars Church, rebuilding; new chapel in the Castle; and Trinity College Church, Calton-hill. Many mansions and villas are now building in the Royal-terrace, Calton-hill; at Bruntsfield-terrace, Greenhill; and in Greenhill-gardens. A new street, to be called Leuchars-street, is in progress behind Clarendon-crescent. The building trades are also busy with many other improvements in buildings, streets, and roads, and various statues are about to be added to those which already adorn the city.

DISCOVERY OF ANCIENT REMAINS AT ROYSTON.—An excavation of remote origin has been recently discovered on Royston Heath, on the summit of a lofty hill near to the old British and Roman Icknield way and to a number of British tumuli. The spot in question, before it was opened, presented the form of a hollow oval, surrounded by a very low bank, and flanked on the north-east by a truncated mound, which had the appearance of having been disturbed. A small hillock within the circular bank, but most probably accidental, gave to the place a somewhat Druidical character. The hollow oval lies in a direction north-west and south-east. Its length is about 31 feet by a breadth of about 22 feet. Within the bank are two circular excavations, meeting together in the middle, and nearly forming the figure 8. Both excavations descend by concentric and contracting rings to the walls which form the sides of the chambers; the depth from the surface of the southern excavation being nearly 7 feet, from that of the northern, about 5 feet. The southern chamber has an upright wall to the height of nearly 4 feet: the wall of the northern chamber gradually recedes almost from the floor. A division wall about 2 feet 6 inches high in the southern chamber, and about 1 foot in the northern chamber, with an opening about 3 feet wide between the shoulders, separates the two chambers. The southern may be compared to an ampulla, with the foot turned inwards; the northern to an egg, or an ace of spades. The northern chamber is about 7 feet from north to south, by about 6 feet from east to west at the broadest part. A bench runs round it on the west side, about 1 foot high above the floor, by about 1 foot broad, and a similar bench occupies a small portion of the east side also. Various ancient and mediæval relics were found; but these do not seem to shed any light on the original purpose of the excavation.

[ADVERTISEMENT.]

TO THE EDITOR OF THE "BUILDER."

MESSRS. CLARK and Co. of 15, Gate-street, Lincoln's-inn-fields, having erected at our premises two very large revolving shutters, one weighing upwards of two tons, we feel much pleasure in recommending them, having acted exceedingly well during the whole of the three years they have been in use; also for the lowness of their charges and rigid punctuality, entitling them to the support of all those with whom durability is economy and time saved money made.

Our shutters may be seen nightly in active operation at eight o'clock.

SOWERBY, TATTON, and COMPANY,
Linendrapers, Regent-circus, Oxford-street.

TENDERS

For Haley-hill Church. Mr. Scott, architect:—

	Contract.	If roofs are oak, add.	If seats are of wainscot, add.
Brammalt	£24,525	£1,511	£398
Cordingly	18,782	803	398
Beanland	17,935	810	750
Cooper (accepted)	17,855	440	315

These amounts do not include carving, decoration, or stained glass, nor do they include the cost of foundations and plinth, which have already been executed. Presumed total cost besides:—

Carving	£2,000
Foundations and Plinth	1,460
Stained Glass and Decoration	700
Heating	300
Lighting	360
Laying out Ground, and Railing for same	320

For flagging, paving, and other improvements, to be done in the town of Ware. Quantities supplied:—

Coker and Oakes, Ware	£1,135	0	0
West, London	1,108	0	0
Eakins, Ware	1,095	0	0

TO CORRESPONDENTS.

"Mr. L."—"T. B."—"Anglo-Francais."—"R. D."—"A Subscriber," Dublin (complain to the newsvendor).—"W. P. G."—"D. M."—"Lex."—"G. H."—"J. and B. D."—"Dr. R."—"J. H. T."—"J. A."—"Subscriber."—"A. T. R." (thanks).—"E. A. F."—"J. N."—"Ratcatcher."—"E. W. C."—"T. W. B." (useful advice can be given only by those who have seen the premises. Try a good baking. If ground lies against the walls, other steps would be necessary. Condensation of the damp air inside may have something to do with it).

"*Books and Addresses.*"—We are forced to decline pointing out books or finding addresses.